S. HRG. 99-805

THE ACQUISITION FINDINGS IN THE REPORT OF THE PRESIDENT'S BLUE RIBBON COMMISSION ON DEFENSE MANAGEMENT

HEARING

BEFORE THE

SUBCOMMITTEE ON DEFENSE ACQUISITION POLICY

OF THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

NINETY-NINTH CONGRESS

SECOND SESSION

ON

S. 2082

TO AMEND TITLE 10, UNITED STATES CODE, TO IMPROVE THE MANAGEMENT OF MAJOR DEFENSE ACQUISITION PROGRAMS, TO ESTABLISH A DEFENSE ACQUISITION SERVICE, AND TO LIMIT EMPLOYMENT CONTACTS BETWEEN SENIOR OFFICIALS OF THE DEPARTMENT OF DEFENSE AND DEFENSE CONTRACTORS

S. 2151

TO AMEND TITLE 10, UNITED STATES CODE, TO ESTABLISH WITHIN THE OFFICE OF THE SECRETARY OF DEFENSE AN OFFICE OF DEFENSE ACQUISITION FOR THE CENTRALIZED PROCUREMENT OF ALL PROPERTY AND SERVICES FOR THE DEPARTMENT OF DEFENSE, TO PROVIDE FOR AN UNDER SECRETARY OF DEFENSE FOR ACQUISITION, AND FOR OTHER PURPOSES

APRIL 8, 1986

Printed for the use of the Committee on Armed Services

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THE ACQUISITION FINDINGS IN THE REPORT OF THE PRESIDENT'S BLUE RIBBON COMMISSION ON DEFENSE MANAGEMENT

TUESDAY, APRIL 8, 1986

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON DEFENSE ACQUISITION POLICY,
Washington, DC.

The subcommittee met in open session, pursuant to notice, at 2:10 p.m., in room SR-253, Russell Senate Office Building, Senator Dan Quayle (chairman) presiding.

Present: Senators Quayle, Goldwater, Wilson, Nunn, Levin, Bingaman, Dixon, and Glenn.

Staff present: Jonathan L. Etherton, professional staff member; Arnold L. Punaro, staff director for the minority; Jeffrey H. Smith, minority counsel; John J. Hamre, Patricia L. Watson, David S. Lyles, and Richard J. Keegan, professional staff members; and Mary J. Kampo, staff assistant.

Also present: Gerald J. Smith, assistant to Senator Goldwater; Henry D. Sokolski and Bob Guttman, assistants to Senator Quayle; Mark J. Albrecht, assistant to Senator Wilson; Alan Ptak, assistant to Senator Gramm; Edward McGaffingan, Jr., assistant to Senator Bingaman; Charles C. Smith, assistant to Senator Dixon; and Milton D. Beach, assistant to Senator Glenn.

[The bills S. 2082 and S. 2151 follow:]

II

99TH CONGRESS
2D SESSION

S. 2082

To amend title 10, United States Code, to improve the management of major defense acquisition programs, to establish a Defense Acquisition Service, and to limit employment contacts between senior officials of the Department of Defense and defense contractors.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 20 (legislative day, FEBRUARY 17), 1986

Mr. QUAYLE introduced the following bill; which was read twice and referred to the Committee on Armed Services

---

A BILL

To amend title 10, United States Code, to improve the management of major defense acquisition programs, to establish a Defense Acquisition Service, and to limit employment contacts between senior officials of the Department of Defense and defense contractors.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Defense Acquisition Enterprise and Initiative Act of 1986".

DEFENSE ENTERPRISE PROGRAMS

SEC. 2. (a)(1) Part IV of subtitle A of title 10, United States Code, is amended by inserting after chapter 131 the following new chapter:

"CHAPTER 132—DEFENSE ENTERPRISE PROGRAMS

"Sec.
"2221. Definitions.
"2222. Defense enterprise programs; designation and management of programs.
"2223. Defense enterprise program managers.
"2224. Defense enterprise program staff.
"2225. Authorization policy for defense enterprise programs.

"§ 2221. Definitions

"In this chapter:

"(1) 'Agency' means an agency named in clause (1), (2), (3), or (4) of section 2303(a) of this title.

"(2) 'Defense Acquisition Service' means the Defense Acquisition Service referred to in section 201 of this title.

"(3) 'Defense enterprise program' is any major defense acquisition program designated by the head of an agency under section 2222 of this title.

"(4) 'Head of an agency' means the Secretary of the Army, the Secretary of the Navy, and the Secretary of the Air Force.

"(5) 'Major defense acquisition program' has the same meaning as provided in section 139a(a)(1) of this title.

"§ 2222. **Defense enterprise programs; designation and management of programs**

"(a) The head of an agency, with the approval of the Secretary of Defense, may designate any major defense acquisition program conducted by such agency as a defense enterprise program.

"(b)(1) A defense enterprise program shall be managed by a program manager appointed as provided in section 2223 of this title.

"(2)(A) A defense enterprise program manager of an agency shall report to and be under the direction, control, and authority of the head of such agency or a designee who meets the requirements of subparagraph (B). A defense enterprise program manager shall not be subject to or be required to report to any other officer or employee of the agency.

"(B) For purposes of subparagraph (A), a designee of a head of an agency is an individual who is under the direction, control, and authority of the head of such agency and who reports only to the head of such agency on defense enterprise programs.

"(c)(1) A defense enterprise program shall not be subject to any acquisition regulation, policy, directive, or administrative rule or guideline relating to the acquisition activities of the Department of Defense other than the Federal Acquisition Regulation and regulations that implement or supplement the Federal Acquisition Regulation.

"(2) Paragraph (1) shall not be construed to limit the application of Federal legislation relating to the acquisition activities of the Department of Defense.

"**§ 2223. Defense enterprise program managers**

"(a) The head of an agency conducting a defense enterprise program shall appoint a program manager for such program.

"(b)(1) The head of an agency shall select a defense enterprise program manager from among civilian employees of the Defense Acquisition Service who meet the requirements of paragraph (2) or members of the armed forces who meet such requirements.

"(2) A defense enterprise program manager shall have at least 8 years of experience in acquisition, support, and maintenance of weapon systems.

"(3) A member of the armed forces may be selected to be a defense enterprise program manager without regard to the grade of the member or any administrative policy relating to the duty assignments of members of the armed forces.

"(c)(1) The term of appointment of a defense enterprise program manager shall be at least (A) 4 years, or (B) the period beginning on the date of the appointment and ending on the first date (after such date of appointment) on which the defense enterprise program reaches a defense systems ac-

quisition review council milestone established for the program, whichever period is shorter.

"(2) A defense enterprise program manager of an agency may be removed by the head of the agency only for inadequate performance or to be appointed defense enterprise program manager of a more important or higher priority defense enterprise program (as determined by such head of an agency).

"(d)(1) Under regulations prescribed by the Secretary of Defense, each year the person to whom a defense enterprise program manager reports pursuant to section 2222(b)(2) of this title shall formally evaluate the performance of such manager.

"(2) In evaluating the performance of a manager of a defense enterprise program, the person making the evaluation shall take into consideration the extent to which the manager has been able to achieve the objectives of the program, including quality, timeliness, and cost objectives, and any comments received pursuant to paragraph (3).

"(3) Under regulations prescribed by the Secretary of Defense, each officer or employee of an agency and each member of the armed forces who, except for section 2222(b)(2) of this title, would supervise or control the manager of a defense enterprise program, receive reports on the program from such manager, or have the authority to ap-

prove or disapprove the decisions of such manager in conducting the program may submit to the person evaluating such manager comments on the performance of such manager.

"**§ 2224. Defense enterprise program staff**

"(a)(1) The manager of a defense enterprise program may establish a senior staff to assist in the management of the program. The manager may select the members of the senior staff from among members of the Defense Acquisition Service and members of the armed forces.

"(2) Members of the armed forces who are selected for positions in the senior staff of a defense enterprise program shall be assigned to such positions without regard to any administrative policy relating to the assignment of members of the armed forces.

"(b)(1) A defense enterprise program manager may appoint a technical staff, including experts in contracting, auditing, testing, and logistics, to enable the manager to manage the program without the technical assistance of another organizational unit of an agency.

"(2) A defense enterprise program manager of an agency shall appoint the members of his technical staff from among members of the Defense Acquisition Service, other officers and employees of the agency, and members of any branch of the armed forces who are reasonably available for

such appointment, as determined by the Secretary concerned. In making determinations of availability for the purpose of this paragraph, the Secretary concerned shall, to the maximum extent practicable, find that persons selected for appointment to a technical staff are reasonably available for such appointment.

"§ 2225. **Authorization policy for defense enterprise programs**

"(a) It is the policy of the Congress to authorize at any one time in connection with any defense enterprise program the appropriation of sufficient funds to carry out the program through at least one defense systems acquisition review council milestone established for the program.

"(b) The Secretary of Defense shall specify in each authorization request submitted to the Congress for a defense enterprise program the amount of funds necessary to carry out the program through at least one defense systems acquisition review council milestone established for the program.".

(2) The table of chapters at the beginning of part IV of such subtitle is amended by inserting after the item relating to chapter 131 the following new item:

"132. Defense Enterprise Programs ..... 2221".

(b) A person may be appointed to a position of defense enterprise program manager or to a position on the senior staff of a defense enterprise program under section 2223(b) or 2224(a), respectively, of title 10, United States Code (as

added by subsection (a)(1)), before the date on which the Defense Acquisition Service referred to in such sections is established. The requirement for a person so appointed to be a member of the Defense Acquisition Service (as prescribed in each such section) and the civil service laws relating to the examination and selection of persons for appointment to civilian positions in the Federal Government shall not apply to the appointment of a civilian to such position before such date.

DEFENSE ACQUISITION SERVICE

SEC. 3. (a)(1) Chapter 8 of title 10, United States Code, is amended—

(A) by inserting before section 191 the following: "SUBCHAPTER I—DEFENSE INTELLIGENCE AGENCY"; and

(B) by adding at the end thereof the following new subchapter:

"SUBCHAPTER II—DEFENSE ACQUISITION SERVICE

"Sec.
"201. Establishment of the Defense Acquisition Service.
"202. Appointments in the Defense Acquisition Service.
"203. Assignments and duties of members of the Defense Acquisition Service.
"204. Rates of pay.
"205. Performance awards in the Defense Acquisition Service.
"206. Performance evaluations; use of evaluations.
"207. Personnel actions.
"208. Regulations.

"**§ 201. Establishment of the Defense Acquisition Service**

"(a) There is in the Department of Defense a Defense Acquisition Service consisting of not more than 10,000 civilian positions in the military departments.

"(b) The number of Defense Acquisition Service positions in a military department shall be determined by the Secretary of Defense and shall be subject to the limitations on personnel strengths applicable to such department.

"**§ 202. Appointments in the Defense Acquisition Service**

"(a) The Secretary of each military department may make appointments to positions in the Defense Acquisition Service.

"(b) At least 30 percent of all persons appointed to Defense Acquisition Service positions by the Secretary of a military department in any fiscal year shall be appointed to entry level positions.

"(c)(1) Persons shall be selected for appointment to entry level positions in the Defense Acquisition Service on the basis of competitive written examinations and oral interviews conducted by appropriate officers and employees of the Department of Defense and members of the armed forces. The competitive written examination may not be given to a person who does not meet the minimum education, training, and experience requirements prescribed by the Secretary of Defense.

"(2) Persons may be selected for appointment to Defense Acquisition Service positions other than entry level positions without written examination or oral interview. Selection for appointment to such positions shall be based on edu-

cation, training, experience, and demonstrated ability in acquisition matters.

"(d)(1) Appointments to Defense Acquisition Service positions shall be subject to regulations prescribed by the Secretary of Defense.

"(2) The regulations shall include qualification requirements developed by the Secretary of Defense.

"(3) The Secretary of Defense may provide for a period of probation before any appointment to the Defense Acquisition Service becomes final.

"§ 203. Assignments and duties of members of the Defense Acquisition Service

"(a) Members of the Defense Acquisition Service appointed by the Secretary of a military department shall be assigned to perform appropriate acquisition duties in the department, as determined by the Secretary.

"(b) A member of the Defense Acquisition Service may be assigned individually to an acquisition position or to a particular acquisition program or may be assigned as a part of a team to a particular acquisition program.

"§ 204. Rates of pay

"(a) Subject to the requirements of this section, the Secretary of Defense shall establish the rates of basic pay for the Defense Acquisition Service.

"(b) The minimum rate of basic pay for positions in the Defense Acquisition Service shall be equal to the minimum rate of basic pay for grade GS-7 of the General Schedule. The maximum rate of basic pay for positions in the Defense Acquisition Service shall be equal to the maximum rate of basic pay established for the Senior Executive Service under section 5382 of title 5. Sections 5308 and 5373 of such title shall not apply to the rates of basic pay established under this subsection.

"(c) Subject to subsection (b), effective at the beginning of the first applicable pay period commencing on or after the first day of the month in which an adjustment takes effect under section 5305 of title 5 in the rates of basic pay under the General Schedule, each rate of basic pay for the Defense Acquisition Service shall be adjusted by an amount determined by the President to be appropriate. The adjusted rates of basic pay for the Defense Acquisition Service shall be included in the report transmitted to the Congress by the President under section 5305(a)(3) or 5305(c)(1) of such title.

"(d) The rates of basic pay that are established and adjusted under this section shall be published in the Federal Register and shall supersede any prior rates of basic pay applicable to members of the Defense Acquisition Service.

"(e) The Secretary of a military department who appointed a member of the Defense Acquisition Service shall

determine, in accordance with criteria established by the Director of the Office of Personnel Management, which of the rates of basic pay established under subsection (a) shall be paid to such member. The Secretary shall make his determination in the case of any person on the basis of the person's qualifications, experience, and ability and without regard to the grade (or similar status) of the position to which the member is appointed.

"(f)(1) In no event may the aggregate amount paid to a member of the Defense Acquisition Service during any fiscal year under this section and section 205 of this title exceed the annual rate payable for positions at level I of the Executive Schedule in effect at the end of such fiscal year.

"(2)(A) Any amount which is not paid to a member of the Defense Acquisition Service during a fiscal year because of the limitation under paragraph (1) shall be paid to that member in a lump sum at the beginning of the following fiscal year.

"(B) Any amount paid under this paragraph during a fiscal year shall be taken into account for purposes of applying the limitation under paragraph (1) with respect to such fiscal year.

"(C) The Office of Personnel Management shall prescribe regulations, consistent with section 5582 of title 5, under which payment under this paragraph shall be made in

the case of any individual whose death precludes payment under subparagraph (A).

"(g) Except for any pay adjustment under subsection (c), the rate of basic pay for a member of the Defense Acquisition Service may not be adjusted more than once during any 12-month period.

"(h) The rate of basic pay for a member of the Defense Acquisition Service may be reduced only if the member is given written notice of the reduction at least 15 days in advance of the reduction.

"**§ 205. Performance awards in the Defense Acquisition Service**

"(a)(1) To encourage excellence in performance by members of the Defense Acquisition Service, performance awards shall be paid to members in accordance with the provisions of this section.

"(2) A performance award shall be paid in a lump sum and shall be in addition to the basic pay paid under section 204 of this title.

"(b)(1) A performance award may not be paid under this section to any member of the Defense Acquisition Service whose job performance was determined to be less than fully successful (or the equivalent) at the time of the member's most recent performance evaluation under section 206 of this title.

"(2) The amount of a performance award paid to a member of the Defense Acquisition Service under this section shall be determined by the Secretary who appointed the member to the Service. However, the amount of an award may not be less than the amount equal to 5 percent of the member's annual rate of basic pay nor more than the amount equal to 20 percent of such rate.

"(3) The aggregate amount that may be paid under this section by a military department in any fiscal year may not exceed the greater of—

"(A) an amount equal to 3 percent of the aggregate amount of basic pay paid to members of the Defense Acquisition Service in such department during the preceding fiscal year; or

"(B) an amount equal to 15 percent of the average of the annual rates of basic pay paid to members in such department during the preceding fiscal year.

"(c) The Director of the Office of Personnel Management may issue guidance to the military departments concerning the proportion of the salary expenses of the Defense Acquisition Service that may be appropriately applied to payment of performance awards and the distribution of awards.

"§ 206. **Performance evaluations; use of evaluations**

"(a) The performance of each member of the Defense Acquisition Service shall be evaluated at least once each year.

"(b) Under regulations prescribed by the Secretary of Defense, an appointing authority—

"(1) may increase the rate of basic pay of a member of the Defense Acquisition Service to a rate established under section 204 of this title for overall performance which is rated as fully successful or above (or a similar rating); or

"(2) may reduce the rate of basic pay of a member of the Defense Acquisition Service to a rate established under such section or remove such member from the Defense Acquisition Service for unacceptable performance (within the meaning of section 4301(3) of title 5).

Actions under this subsection shall be based on the performance evaluations of the member.

"§ 207. **Personnel actions**

"(a) As used in this section—

"(1) 'agency' has the same meaning provided in section 3132(a)(1) of title 5; and

"(2) 'personnel action' means—

"(A) any appointment, promotion, assignment, determination of rate of basic pay, perform-

ance award, removal, or performance evaluation; and

"(B) any decision, recommendation, examination, or ranking provided for under this subchapter which relates to any action referred to in subclause (A).

"(b) All personnel actions in the case of a member of the Defense Acquisition Service who has completed a probationary period of service applicable to such member under section 202(d)(3) of this title shall be taken in accordance with the merit principles prescribed in section 2301(b) of title 5.

"(c)(1) A member of the Defense Acquisition Service who was appointed from a civil service position held under a career or career-conditional appointment (or an appointment of equivalent tenure, as determined by the Office of Personnel Management) and who, for reasons other than misconduct, neglect of duty, or malfeasance, is removed from the Defense Acquisition Service during a probationary period is entitled to be placed in a civil service position in any agency.

"(2) A member of the Defense Acquisition Service who is removed from the Defense Acquisition Service, other than during a probationary period, for unacceptable performance, as determined under section 206 of this title, is entitled to be placed in a civil service position in any agency.

"§ 208. **Regulations**

"The Secretary of Defense shall issue such regulations as may be necessary to carry out the provisions of this subchapter.".

(2) The table of sections at the beginning of such chapter is amended by inserting before the item relating to section 191 the following:

"Subchapter	Sec.
"I. Defense Intelligence Agency	191.
"II. Defense Acquisition Service	201.

"SUBCHAPTER I—DEFENSE INTELLIGENCE AGENCY".

(b) Notwithstanding section 201 of title 10, United States Code (as added by subsection (a)(1)(B)), there may not be more than 350 members of the Defense Acquisition Service referred to in such section in the Department of the Army, the Department of the Navy, or the Department of the Air Force in fiscal year 1987, not more than 700 in any such department in fiscal year 1988, and not more than 1,000 in any such department in fiscal year 1989.

PROHIBITED PRIVATE EMPLOYMENT CONTACTS

SEC. 4. (a)(1) Chapter 141 of title 10, United States Code, is amended by inserting after section 2397a the following new section:

"§ 2397b. **Prohibition on private employment contacts between certain Department of Defense officials and defense contractors**

"(a) In this section:

"(1) 'Covered senior defense official' means—

"(A) the Deputy Secretary of Defense;

"(B) the Under Secretary of Defense for Research and Engineering;

"(C) the Assistant Secretary of Defense for Acquisition and Logistics;

"(D) the Secretary of the Army;

"(E) the Secretary of the Navy;

"(F) the Secretary of the Air Force;

"(G) the under secretary of each military department;

"(H) the Assistant Secretary of the Army for Research, Development and Acquisition;

"(I) the Assistant Secretary of the Navy for Shipbuilding and Logistics;

"(J) the Assistant Secretary of the Navy for Research, Engineering and Systems;

"(K) the Assistant Secretary of the Air Force for Research, Development, and Logistics; and

"(L) any other official in the Department of Defense who is appointed by the President and who has been designated by the President as a covered senior defense official for purposes of this section in an executive order issued not less than

180 days before the date on which such official is appointed to the position of such official.

"(2) 'Defense contractor' has the same meaning provided in section 2397(a)(2) of this title.

"(3) 'Employment' has the same meaning provided in section 2397a(a)(5) of this title.

"(b) A covered senior defense official may not contact a defense contractor regarding future employment opportunities for the official with the defense contractor.

"(c) A covered senior defense official shall immediately terminate any contact made by a defense contractor with the official regarding future employment opportunities for the official with the defense contractor.

"(d)(1) Upon termination of Federal Government employment, a covered senior defense official who has served in the position of such official for a period beginning not less than 24 months before the date of the termination and ending on such date shall be entitled to receive as severance pay the lesser of—

"(A) the amount determined under paragraph (2); or

"(B) the greater of—

"(i) the amount determined by multiplying the number of days between the date on which the covered senior defense official terminates such

employment and the date on which he commences employment outside the Federal Government by the daily equivalent of the annual rate of basic pay for the position of the covered senior defense official on the day before the termination of his Federal Government employment; and

"(ii) an amount equal to one-twelfth of the annual rate of basic pay for the position of the covered senior defense official on the day before the termination of his Federal Government employment.

"(2) The amount referred to in paragraph (1)(A) is—

"(A) in the case of a covered senior defense official who has served in his position for at least 2 consecutive 12-month periods but less than 3 consecutive 12-month periods, the amount equal to one-fourth of the annual rate of basic pay for such position on the day before the termination of his Federal Government employment;

"(B) in the case of a covered senior defense official who has served in the position of such official for at least 3 consecutive 12-month periods but less than 4 consecutive 12-month periods, the amount equal to one-third of the annual rate of basic pay for such posi-

tion on the day before the termination of his Federal Government employment; and

"(C) in the case of a covered senior defense official who has served in the position of such official for at least 4 consecutive 12-month periods, the amount equal to five-twelfths of the annual rate of basic pay for such position on the day before the termination of his Federal Government employment.

For the purpose of this paragraph, if the service of a person as a covered senior defense official is terminated by reason of a change of Presidents and the number of months of service as such an official is not divisible by 12, the number of months of such service shall be increased to the next higher number that is divisible by 12.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2397a the following new item:

"2397b. Prohibition on private employment contacts between certain Department of Defense officials and defense contractors.".

(b) Section 2397(a) of title 10, United States Code, is amended—

(1) by inserting at the end of subsection (a) the following:

"(7) 'Covered senior defense official' has the same meaning provided in section 2397b(a)(1) of this title.";

(2) by inserting "or a covered senior defense official makes or receives such a contact from any defense contractor regarding such an opportunity," after "defense contractor," in subsection (b)(1);

(3) by striking out "a covered defense official" the second place it appears in subsection (e) and inserting in lieu thereof "the defense official"; and

(4) by inserting "or a covered senior defense official" after "covered defense official" each place it appears in subsections (b)(2), (d)(2)(A), (e), and (f).

EFFECTIVE DATES

SEC. 5. (a) Except as provided in subsection (b), this Act and the amendments made by this Act shall take effect on the date of enactment.

(b)(1) The amendments made by section 3 shall take effect on October 1, 1986.

(2) The amendments made by section 4 shall take effect with respect to persons who are appointed to positions referred to in section 2397b(a)(1) of title 10, United States Code (as added by section 4(a)), not less than 60 days after the date of the enactment of this Act.

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II

99TH CONGRESS
2D SESSION

S. 2151

To amend title 10, United States Code, to establish within the Office of the Secretary of Defense an Office of Defense Acquisition for the centralized procurement of all property and services for the Department of Defense, to provide for an Under Secretary of Defense for Acquisition, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 6 (legislative day, FEBRUARY 24), 1986

Mr. DIXON introduced the following bill; which was read twice and referred to the Committee on Armed Services

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A BILL

To amend title 10, United States Code, to establish within the Office of the Secretary of Defense an Office of Defense Acquisition for the centralized procurement of all property and services for the Department of Defense, to provide for an Under Secretary of Defense for Acquisition, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Department of Defense Acquisition Reorganization Act of 1986".

SEC. 2. UNDER SECRETARY OF DEFENSE FOR ACQUISITION.

Section 135 of title 10, United States Code, is amended—

(1) in the first sentence of subsection (a)—

(A) by striking out "two" and inserting in lieu thereof "three";

(B) by striking out "policy and" and inserting in lieu thereof "Policy,"; and

(C) by striking out the period and inserting in lieu thereof ", and one of whom shall be the Under Secretary of Defense for Acquisition"; and

(2) in subsection (b)—

(A) by inserting "(1)" after "(b)";

(B) by designating the second sentence as paragraph (2);

(C) by designating clauses (1), (2), and (3) of paragraph (2) (as designated by subclause (B) of this clause) as clauses (A), (B), and (C), respectively; and

(D) by adding at the end of the following new paragraph (3).

"(3)(A) ESTABLISHMENT OF UNDER SECRETARY OF DEFENSE FOR ACQUISITION.—In section 135 of title 10, United States Code, increase the number of Under Secretaries of Defense by one and insert the following new paragraph:

" 'One of the Under Secretaries shall be the Under Secretary of Defense for Acquisition. He shall have as his principal duty the overall supervision of the policy development and resource management for the following:

" '(A) The acquisition of all property and services for the Department of Defense, including major defense systems acquisitions.

" '(B) All of the contract administration and contract audit functions of the Department of Defense.

" '(C) The supervision, direction, and control of—

" '(i) the Competition Advocates General of the agencies of the Department of Defense;

" '(ii) the functions and personnel of the Defense Logistics Agency;

" '(iii) the functions and personnel of the Defense Acquisition Regulatory Council; and

" '(iv) the functions and personnel of the Offices of Small Disadvantaged Business Utilization for the agencies of the Department of Defense, established pursuant to section 15(K) of the Small Business Act (15 U.S.C. 644(k)'.".

The Under Secretary shall be the Acquisition Executive of the Department of Defense pursuant to section 401 of title 41, United States Code.

(4)(a) Chapter 137 of such title is further amended by adding at the end thereof the following new section:

"§ 2325. **Approval of new starts, full-scale development, or production**

"A major system new start, or the full-scale development of a major system, or the procurement of a major system, may not be entered into unless the Under Secretary of Defense for Acquisition has reviewed and approved the acquisition program. In reviewing any proposed program for the acquisition of a major system, the Under Secretary shall evaluate the plans and requirements for the system, determine the necessity for production, consider the commonality of parts and components of the system, consider the complexity and practicality of the system, and, when appropriate, obtain the advice of the Under Secretary of Defense for Research and Engineering regarding research development, test and evaluation for such major system.".

(b) Within two years after the establishment of the office of the Under Secretary of Defense for Acquisition, the total number of civilian and military personnel assigned or detailed to permanent duty in the headquarters staffs reporting to the Under Secretary shall be reduced by a number equal to 20 percent below the number of civilian and military personnel assigned or detailed to permanent duty in such headquarters staffs reporting to the Under Secretary on the date of the

enactment of this Act. Except in time of war or national emergency declared by Congress, the number of persons assigned to duty in the headquarter staffs reporting to the Under Secretary of Defense for Acquisition may not be increased after the reduction required by the preceding sentence.

(c)(1) The Secretary of Defense shall develop appropriate policies and programs for the career recruiting, training, development and placement of personnel of the Department of Defense assigned to duty in a procurement function of the Department. Such policies shall take into account the procurement management personnel requirements provided for in chapter 89 of title 10, United States Code.

(2) Not later than January 1, 1987, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report of the policies and programs he determines will carry out the career development for such personnel.

(3) Such policies and programs shall be implemented not later than January 1, 1986.

(4) Section 2328 of such title is amended by inserting "to the approval of the Under Secretary for Acquisition and" after "Subject".

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Senator QUAYLE. The committee will come to order.

Today we have three outstanding witnesses. These witnesses before us are from the President's Blue Ribbon Commission on Defense Management, whose report we have anticipated for a long time. We have had a number of hearings. We are marching toward a markup, and we are delighted to have Mr. Packard, Dr. Perry, and Dr. Gansler with us here today.

I would like to first of all congratulate you, Mr. Packard, and all the members of your Commission on doing not only an outstanding job, but for giving us the means of hopefully getting out of this trench warfare battle that we have had in procurement, and into an arena of developing a consensus. I believe it is absolutely imperative as we move forward to have a strong bipartisan consensus on what we are going to do in the area of procurement.

We have developed over the last few years bridges of mistrust. Congress does not trust DOD. DOD does not trust Congress. DOD does not trust the defense contractors. The defense contractors do not trust Congress or DOD. So we are going to have to develop a consensus, and I think in your recommendations and outline have put us on that path.

As we move toward procurement reform, I believe that the goals that we always have to adhere to are, No. 1, quality. We must also look at the goals of efficiency and lower cost, and the goal of competition.

So I congratulate you on a fine report, and I look forward to your testimony. Everybody has been patiently, and perhaps impatiently awaiting your arrival as you are going to unveil the contents of this blue document. It will now become the matter that we will refer to in what I hope to be a very respectful, congenial, bipartisan supportive way. But we must wait and see.

I know I certainly support many, if not all of the things that you have mentioned.

So I will turn for any opening statement that Senator Goldwater may have.

Senator GOLDWATER. No; thanks for letting me be here.

Senator QUAYLE. Senator Bingaman.

Senator BINGAMAN. I have no opening statement, Mr. Chairman.

Senator QUAYLE. Senator Nunn.

Senator NUNN. We are delighted to receive your testimony, and we appreciate all the hard work you and your fellow Commission members have put in. Senator Goldwater and I stayed in touch with Mr. Packard and other members of the Commission during their deliberations. I know they were given a very big assignment but I think they have done a commendable job in both the reorganization area and in the procurement area, and we are looking forward to hearing from them. I would like to thank every member of the Commission.

[The prepared statement of Senator Dixon follows:]

PREPARED STATEMENT OF SENATOR ALAN J. DIXON

Mr. Chairman, I am pleased to be here today as we receive testimony on your bill S. 2082, the Defense Enterprise and Initiative Act of 1986, as well as my bill S. 2151, the Department of Defense Acquisition Reorganization Act of 1986. We will also be discussing the acquisition findings and report of the Packard Commission on De-

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fense Management. We will be hearing from the Honorable David Packard, Chairman of the President's Blue Ribbon Commission on Defense Management, Dr. William Perry, a member of the Commission, and Dr. Jacques S. Gansler, a consultant to the Commission.

Mr. Chairman, after reviewing the Commission's full report following its release yesterday, and hearing from the Deputy Secretary of Defense, Mr. Taft, I am introducing an amendment to S. 2151 which fully implements the Packard Commission recommendations. As I pointed out to my colleagues when I introduced S. 2151, there were some key differences between my legislation and the Packard Commission's proposals. However, I am now convinced that in order to give the under secretary for acquisition complete authority in this important field, the Packard Commission's recommendations should be included in our final legislative package.

Thank you Mr. Chairman.

Senator QUAYLE. With that, we will now turn to you, Mr. Packard, to proceed at your pleasure.

STATEMENT OF HON. DAVID PACKARD, CHAIRMAN, PRESIDENT'S BLUE RIBBON COMMISSION ON DEFENSE MANAGEMENT MENT

Mr. PACKARD. Well, thank you very much, Mr. Chairman, and members of the committee. We appreciate very much the opportunity to be here today and to talk about the second report.

As you know, yesterday morning we presented the second report, which we call "A Formula for Action." It goes into some detail and is built on the recommendations of our first report. Dr. Bill Perry, who is with us here today, headed up the Task Force of the Commission that prepared this report, and I want to ask him to go over some of the major proposals of that report with you, but I want to make a few comments first.

[See: "A Formula For Action", A Report to the President on Defense Acquisition by the President's Blue Ribbon Commission on Defense Management, April 1986. Appendix p. 69.]

I want to emphasize again that we think the foundation of success in acquisition is really very largely in the stability of defense funding, and coupled with that a better long-range defense planning. So the issues we had in our interim report we still consider to be very important recommendations that we think will be helpful in the long term.

I think it is important also to point out what you have already said, that we need better teamwork between the Department and the executive branch on the one hand, and the Congress on the other. We need to find some way to restore some bipartisan consensus for the support of defense and to see if we can find a means of agreeing on a stable and predictable long-term defense funding plan.

Now we are encouraged that the President has already begun to take steps to straighten out his side of the proposal. He has accepted most of our recommendations and is proposing to have those implemented that can be done without legislation. So we hope the Congress will move ahead and do those things which would be necessary in terms of legislation.

We particularly feel it is desirable to move ahead on this long-range planning. We think biennial budget proposals will do a great deal toward stabilizing the situation. We hope that in approaching it from this standpoint we can get this long-range planning in the process we talked about because to get the Department to prepare

their plans within fiscal constraints over a 5-year period will require some of the kinds of tradeoffs that will make a lot of sense in the overall situation.

One of the questions we continually ask about our recommendations is how much money can be saved. I thought I might make it clear at this time that nothing we have seen in our report on the Commission has led us to believe that the overall defense budget should be cut. We think that savings that might be realized by the economies we are talking about probably should be applied to other pressing defense needs. That is not mentioned by our Commission, but I wanted to make a point that we think it is very important to continue to maintain the strength of our military forces that has been built up over these years. I think the significant reductions that could come from our recommendations could appropriately be applied to maintaining our strength.

The second point I wanted to talk about is this question of centralization and decentralization because some people have said that since we are recommending an Under Secretary for Acquisition that this is moving toward a centralized concept. I want to go over that issue just a bit with you because this came about in part because of my own experience as the Deputy Secretary of Defense a few years ago.

As I think you know, traditionally, the Under Secretary has had the responsibility for managing the overall acquisition program in the Defense Department. At that time, there were and still are a lot of other things that that secretary has to do. We simply feel that this is such an important program, one of the largest procurement programs in the world and a very important one, that it is essential that we try and do something to have someone in charge full time.

Essentially what we are saying is that we are recommending the split of what were the Deputy Secretary's responsibilities, and that part of these be given to this Under Secretary. That does not mean that anything below that needs to be changed.

In particular, some of the recommendations proposed are that the Under Secretary for Research and Engineering's position be reduced from a No. 3 level to a No. 4 level. We think that is an extremely important job that should remain at the No. 3 level because we have had some fine people in that position over the years; and there again, putting the Under Secretary for Acquisition at the No. 2 level simply replaces what the Deputy Secretary has done in the previous time.

We want to emphasize again that a very fundamental part of our recommendation is for short, clear, and unambiguous lines of authority and communication between the program managers and the top level acquisition executives. We see this as, rather than creating more centralization, creating an environment where these teams can work in an independent way. This again is a move not toward centralization but toward decentralization.

I think any way you can get teams of high-quality people who are knowledgeable about their job, have a clear responsibility as to what they are supposed to be doing, and the authority to do it, then you can leave them alone, and that is the kind of decentrali-

zation we ought to really achieve. I think we will get some improved performance to the extent we can do that.

We think it is important to focus some attention on the Government's relationship with industry. We talked about this a little bit in our interim report, and it is quite clear that the Defense Department is very highly dependent upon the defense industry for all of those things that it needs; and a rather serious adversarial relationship has been built up. There is no question about it. The industry has done some things that are not correct. We think the contractors have to clean their houses, but we think it would be very desirable if we could get this relationship with industry back on an honest basis without requiring a thousand people to look over everybody's shoulder to make sure some mistake has not been made.

We think that this is a two-way street. In order for contractors to move toward better self-government, there has to be a climate that encourages that, and that climate clearly is not there today; and we think we all have a responsibility to work together to try and create a better environment.

The final thing that runs through all of our recommendations is again a very simple proposition. You can make all the changes in the structure you want. You can put all the rules and regulations in that you want, or take them out, but in the final analysis, the performance we get from our Defense Department is going to be dependent upon people. Thus we have to find some way to attract, motivate, and reward better people at all levels in the Department.

That is an issue we touched on in our first report. We touch on it again in the report that Bill will outline for you today. That, we think, requires consideration of what can be done to attract and motivate better people at the higher levels, but also it goes clear through the whole structure down to the lowest levels as well.

I think that with those opening remarks I would like to ask Bill Perry to take a few minutes, if you are willing, to let him go through the latest report, give you the highlights of that, and then we will be pleased to respond to what questions you may have.

[The prepared statement of Mr. Packard follows:]

Thank you, Mr. Chairman. We do appreciate the opportunity to appear before you today. As you know, yesterday morning the President's Blue Ribbon Commission on Defense Management released its second report. This report, which we call "A Formula for Action", goes into detail on our findings and recommendations regarding defense acquisition processes and organizations. Dr. William Perry, who headed up our task force on acquisition, is here with me today. I would like to ask him to go over the major proposals in this report with you, but first I'd like to address four specific underlying themes, that provide, in my view, the framework of our acquisition report.

First, as the Commission noted in its Interim Report, the foundation of success in acquisition are more stability in defense funding and, coupled with that, better longe-range defense planning. We have outlined in our Interim Report a set of changes to the current planning and budgeting procedures that we think will help in these areas.

I don't want to go into great detail on that today, but it seems clear to us that we need not only better processes for defense planning and for the budget review. We also need better teamwork between DOD and the Executive Branch on the one hand and Congress on the other. We need to find ways to restore some kind of bipartisan consensus for the support of defense and for agreeing on stable and predictable long-term defense funding plans.

The President is already beginning to take steps to straighten out his side of this. The Commission urges Congress to do the same, because without stability, no per-

manent acquisition improvements are possible. We particularly feel that Congress should move to biennial budgets and should raise the level of debate to broader policy issues instead of detailed individual line items.

Nothing we've seen in our work on this commission has led us to believe that overall defense spending should be cut. Moreover, we feel that any savings that would be realized from our acquisition proposals should be applied to other pressing defense needs.

The second major theme I would like to discuss is the issue of centralization and decentralization. All of our proposals are based on the management concept of centralized policy control and decentralized execution. This includes the idea to create a strong, full-time Under Secretary of Defense for Acquisition as the single centralized acquisition policymaker.

That concept is also a fundamental part of our recommendation for short, clear, and unambiguous lines of authority and communication between program managers and top-level acquisition executives. Rather than create more centralization, this proposal will create a climate in which real decentralized execution can take place. It will give program managers the capability and the authority to really manage their programs, without excessive interference.

The third theme is the need to focus attention on government's relating with industry. In our interim report we called for better self-governance by defense contractors. It seems clear that contractors have to clean up their own houses. We have made some specific suggestions about industry codes of ethics, new ways to monitor corporate behavior from the inside, and better internal auditing procedures that are directed at neglected areas of contracting.

But this process is a two-way street. In order for contractors to move toward better self-governance, there has to be a climate that clearly encourages self-discovery and self-correction. I am not sure that such a climate exists today, and I think that we all have a responsibility to help create it.

There is a final theme that runs through all our recommendations. I have long maintained that good management means getting the right person to do the job, giving him the means to do it, and holding him responsible for the results. However, and this is the point I want to leave you with, you cannot legislate good management. The Congress has got to be extremely conscious of that and of the potential for serious problems when Congress tries to do so.

In fact, the many reforms of the past few years have not addressed the root causes to problems in defense acquisition. In many cases, they have made the problems worse.

Mr. Chairman, that completes my opening remarks. With your permission, I would now like to ask Dr. Perry to give you a quick overview of the specific proposals in our acquisition report.

Senator QUAYLE. Thank you very much, Mr. Packard.
Dr. Perry.

STATEMENT OF DR. WILLIAM PERRY, MEMBER, PRESIDENT'S BLUE RIBBON COMMISSION ON DEFENSE MANAGEMENT

Dr. PERRY. Thank you.

Our primary findings of the Commission on Acquisition were that the defense acquisition system is unacceptably inefficient. The major weapons systems cost too much, take too long to develop, and by the time they are fielded, incorporate obsolete technology.

In coming to this assessment we looked at many metrics of performance in the programs, costs and cost overruns. The one we settled on as being most indicative of problems in the program was the acquisition cycle, the length of time from the beginning of full scale development, to the fielding of the system, to the establishment of initial operational capability.

On a typical defense program, that takes 8, 10, or 12 years, somewhere in that range. On the truly well run, most excellent programs we looked at, that was done in 4 or 5 years. Therefore we see a potential here for reducing the acquisition cycle in half. Or to

put it another way, in assessing the present system we estimate that it has taken about twice as long as it should.

The reason for that has to do with a system that is over regulated and overly bureaucratic. To be more specific about this system, let me briefly describe the principal steps in the acquisition process, and the problem each step runs into. As I indicated, these are endemic and deeply rooted in the system and are going to be very difficult to correct.

First of all, the requirement process establishing the need for the system is done to too great a degree in isolation from technical and program realities; therefore there is a great tendency to overstate requirements. This is the phenomenon that has come to be known as gold plating. It is not done deliberately. It is done simply because the people who are stating the requirements do not understand the full consequences of the requirements they are stating. If they knew that the extra 10 percent of performance they were asking for was going to lead to an extra 4 or 5 years to get the system, or was going to cost twice as much and therefore they would only get half as many of the systems, they would be very much inclined to compromise those requirements.

Therefore the first problem is the requirement process leads to overstated requirements. When the requirements are stated and accepted, we go to the program approval process. This is done in an environment which can be best described as a huckster environment where people are trying to sell their program. It is not putting too fine a point on it to say that this does not encourage cost realism, and as a result we end up with understated costs.

The next step is selecting a contractor to build the program. This of course is done in a highly competitive environment which first of all again does not encourage cost realism, and secondly actively discourages challenging specifications, which is really the first time that you have people knowledgeable enough about the program to actively challenge the specifications; but it is done in an environment which discourages direct challenging.

As a consequence, then, this contract selection process enshrines overstated specifications and understated costs. With this situation, we go to the contract negotiation process typically done as a fixed price contract. There are many benefits of a fixed price contract, but I think you can see very clearly that the fixed price contract puts into an inflexible legal document the wrong specifications at an unrealistic cost.

With this rather stark statement of the problem, now imagine yourself as a program manager being handed this program and being asked to make a successful execution of it. Whatever chance you may have of that is soon dashed by the descending on your program of a literal army of advocates who are adding requirements to your program. In addition to that, all of the people who lost on the program are highly motivated to find ways of getting the program killed, delayed, or stretched.

The consequence of this environment is that the program manager spends a very high percentage of his time briefing his program, writing reports on his program, and defending his program, thus doing everything except managing his program. And all too often when he turns to someone for help, there is no one who is both in a

high enough position of authority and in a knowledgeable enough position to help him in this dilemma.

This is a stark statement of the system as it functions today in general. Rather than picking out particular problem programs and disecting them, we took the opposite methodology on the study. We looked for successful programs and tried to dissect the characteristics of these programs that made them successful. Having done that, we wanted them to recommend changes in defense acquisition in which the successful characteristics will be emulated.

We looked first of all in our search for excellence at commercial models. The Boeing 767, the IBM 360, the AT&T switch, and the Hughes Comsat Program were examples of major complex high-technology acquisition programs done commercially in a 4- or 5-year acquisition cycle, and done with a very complicated technical program of equal sophistication to military programs.

Having done that, we then asked ourselves the question: Is there any existence theorem of being equally successful in defense? We found a half a dozen programs that had those same characteristics. For example, the Minuteman Program, the Polaris Program, the Air Launch Cruise Missile Program, and two or three highly classified programs that we looked at all had the same streamlined management characteristics, and they all ended up with equally short acquisition cycles of 4 or 5 years.

So with this model of about a half a dozen programs, we then analyzed them to say what their underlying management characteristics would be? We arrived at six, which I would just like to summarize for you.

First of all, all of them were characterized by short, clear lines of command. There was a program manager who had a clear responsibility to execute the program, and he had someone high in the system, a chief executive officer in the case of a corporation or a very high-level defense official, to whom he could come when he had problems. Thus there was a short, clear line of command.

Second, the programs had a very high degree of stability. Once the program was authorized and once it was approved, the program manager made a commitment as to what he was going to achieve in terms of performance, cost, and schedule; and his chief executive officer then made a commitment to support him as long as he stayed within those parameters.

This is a concept which is known as baselining. What is required in baselining is not just a commitment from the program manager upward, but a commitment of management downward to the program manager. The programs typically had very small high-quality staffs. None of these programs had staffs that were as much as half as large as a typical defense program, and they had very limited reporting requirements. Typically the program manager had to report only to a CEO in the case of a commercial program.

Another characteristic of them is that they have very good communication with the user, or in the case of an industrial program with a customer. We looked in some detail at the interchange in the design of the 767 and setting of specifications for the Boeing 767 and the interchange between the Boeing design engineers and the airlines that were going to be using that airplane.

Before they ever put one rivet into that airplane, they had an intensive exchange of views on characteristics such as fuel economy, range, and payload; and that airplane basically was designed to accommodate what their customers wanted, or what the users needed.

I might mention parenthetically that in programs where that was not done and where the airplane was designed you might say from technology push alone, such as the SST, the Concorde, being a primary example of that, what resulted was a technical success, but from the user's point of view a complete failure.

The final characteristic of these successful programs was that they made very extensive and intensive use of prototyping and operational testing. From the time the idea was conceived, a model was built to realize this, or several models were even built, as the case may be. Once these models were built, they were subjected to tests under simulated operational conditions so that they were testing whether not only the technical factors operated properly, but how well it would function in an operational environment.

So those were the six characteristics of these programs. Our conclusion, then, was that for defense acquisition to emulate the results of these programs, you would have to have it emulate the characteristics. We then came forward with a set of recommendations for changes for the defense acquisition system that would incorporate these characteristics to a much greater degree.

Our recommendations were of two basically different types. One of them had to do with streamlining structure and the organization of defense acquisition, and the other had to do with streamlining the process by which these systems flow through.

In the area of streamlining structure, I will just very briefly highlight the key recommendations.

The first and the fundamental one was to put somebody in charge who has the authority to make decisions and take actions, but who still was close enough to the program to understand the details of it. That is what led to our recommendation for the creation of an Under Secretary for Acquisition, and a series of positions under him which would basically give the program manager a simple, clean line of command to somebody who was both knowledgeable and in authority to take actions.

The second recommendation was the restructuring of the Joint Requirements Management Board. The purpose of this board was to bring into one forum a representative of the user and a representative of the program staff. In this case this was the Under Secretary for Acquisition and the Vice Chairman of the Joint Chiefs of Staff. These two people and their board under them would make the basic decision as to whether to start a program. This is the equivalent of what is now called the DSARC II Milestone. This is the authorization, the birth of a new weapons system.

Now in order for them to make this judgment, they need very reliable information about the technical and the cost characteristics of the system, and that is where the prototype or the increased emphasis in prototyping and operational testing comes from.

Now our final recommendation is in the area of streamlining the structure. We believe that the number of people in the acquisitions

system can be substantially reduced, and that that would be a net plus for the system, rather than a net minus.

Concommitant with that, there has to be an increase in quality. We have a series of recommendations as to modifications in the Civil Service system which would allow changes to be made which would lead to an increase in quality relative to streamlining the process. The first, and by all odds the leading recommendation, is to do at the front end the necessary research and the necessary testing so that when you go into the full-scale development decision, you have the data necessary to make that decision. That is why I emphasize the recommendations, which I am repeating again on prototyping and operational testing.

Now, I should emphasize that in this stage, this is all prior to the beginning of full-scale development. We do not want that stage to drag on interminably either. Therefore we recommend that there be streamlining contracting procedures used during this early phase. It would be a great mistake, I think, to apply standard contract competitive procedures in this area.

Here we are not competing in cost. We are competing in ideas. And a different kind of contracting procedure altogether is necessary for success in this area. Once the front end work is adequately done, the data is then presented to this Joint Requirements Management Board, which now has enough information to make an informed decision about whether to begin development of the system.

One of the specific features of this explicit decision we want them to make is what in industry is called a make or buy decision. In industry, when someone proposes to develop a new system, the first question we must ask is, why can you not adapt a system which already exists.

Maybe you should buy it instead of making it. So if we now have this Under Secretary for Acquisition co-chairing with the vice chairman, we now have the two right people to make this sort of a decision; and if you have the input from the prototype in testing to them, you have the right information for them to make that decision.

We believe that many significant opportunities have been lost for adopting existing systems using nondevelopmental items in defense rather than developing everything from scratch.

Once the program begins, we urge that the program manager be required to proceed on what is called a baseline method of approach. In the baselining system, the program manager makes a contract, in effect, with his boss, and the contract specifies the performance, the costs, and the schedule. The acquisition executive then, once he agrees to that contract, is required to support that program as long as the program manager stays within those parameters.

If the program manager varies from those parameters by more than some acceptable amount, then the whole program, the downward commitment, is then relieved. The whole program then has to go back to the Joint Requirements Management Board with a presumption that the program will be cancelled, and the burden of proof is then on the program manager as to why it should not be cancelled if he has deviated from that baseline.

Now, in this commitment process there is an important difference in the military systems and the industrial systems. The important difference is Congress, and for this downward commitment to really be meaningful, Congress has to participate in it. We believe the best way to get that participation from Congress is when the Joint Requirements Management Board approves a program, and when it has been baselined as I described to you, the Congress at that stage would authorize multiyear funding for carrying it all the way though limited production. This would provide the necessary stability to make these programs function properly. The program then goes through the full-scale development and limited rate production. When the production articles start coming off the line, the first articles are sent out into the field for an intensive operational test, and not until you have the results from that operational test do you consider taking the next major change in the program, which is entering high rate production.

At that stage, the Joint Requirements Management Board reconvenes, and now makes new decisions, which are whether to enter that program into high rate production, how much funds to allocate to it, and at what rate. When they make these decisions, they now have available the production data from the limited production runs. They have the operational results from the operational testing, and they have the benefit of an updated threat estimate.

If they then commit that program to go into high rate production, we then urge that they go back to the Congress and request again multiyear funding for the second phase of the program, the high rate production, so that the commitment goes downward as well as upward for meeting the new production baseline for the program.

Now, while this process is going on, on any given weapons system, there is the procurement of thousands and thousands of devices and components and subsystems, and typically those devices and components are procured to what are called military specifications. We make a strong recommendation that there be a major shift in the Defense Department to turn this situation around so that typically commercial devices and components are procured instead of military specifications.

Let me give you just one example to illustrate this point. In the area of integrated circuits, on these little devices such as your electronic watches, your calculators or your computers, which are all pervasive in military equipment today, the Defense Department spends almost $2 billion buying these microchips today. Most of them are procured according to military specifications.

Military spec chips costs 3 to 10 times as much as their commercial equivalent. And by commercial equivalent I mean a chip which is cut off the same wafer, literally, and just sent down a different assembly line. It has basically somewhat different packaging, and mainly different documentation that goes with it.

That documentation is costing 3 to 10 times as much per chip. Now, when this process was established years ago, there was validity to it because it was necessary to achieve the reliability and quality that the military wanted for their equipment. In the last 3, 4, 5 years the chips being built for the commercial industry have great-

ly improved in quality, and it is our judgment that those are adequate for most applications in the military today.

In the meantime, the system proceeds requiring military specifications; so we make a strong recommendation that whenever a commercial component is available, for example, a microchip, the program manager be required to use that commercial item unless he explicitly gets a waiver to use the military spec item. Now, I hope you appreciate that this is turning the system upside down from the way it now operates. Presently he is required to use the mil spec unless he gets a waiver to use the commercial.

We want the burden of the proof to be on the man who insists on going the more expensive timelier route. Now, these summarize the process recommendations we are making here. I would like to turn to Jack Gansler and have him make a few concluding comments about the work of the acquisition process.

Senator QUAYLE. Dr. Gansler, proceed.

STATEMENT OF JACQUES S. GANSLER, SENIOR CONSULTANT, PRESIDENT'S BLUE RIBBON COMMISSION ON DEFENSE MANAGEMENT

Dr. GANSLER. I want to very briefly emphasize three points that apply across the board on the overall set of recommendations. First is that these recommendations are very much interrelated and in fact reinforcing, and that that is very important to recognize.

For example, to just cover a couple of the points, the greater professionalism and quality of the people we are talking about allows you to have more streamlining of the organization; because if you have high quality people, you can give them the responsibility. If you do not, then you should not give them the responsibility.

Similarly, the idea of baselining combined with more competition will actually allow you to have more self-governance, which we are arguing for, but you need to have other incentives in order to implement the self-governance. Greater technology demonstrations, and protoypes will allow you to have firmer baselines. You have eliminated the risk and the cost issue.

Therefore all of these recommendations in our opinion are interrelated and need to be implemented in order to get the reinforcement. That is the first point. The second point is that there are essentially three sets of changes recommended in his report. The first of those is within the executive branch itself, and the President and the Secretary have moved to try to implement those.

The second of the set we are talking about here today relates to the legislative changes that affect the executive branch. The third set is clearly those within the Congress itself, and they have to be changed by your taking initiative in those directions. It is the combination of those three when they are all implemented that will allow these recommendations to take place.

The third point that I wanted to emphasize was, to repeat kind of Mr. Packard's point about centralization and decentralization, we are constantly being asked, are you recommending more centralization or more decentralization. Basically, the answer to that question is we are recommending more centralization of the decision process, but much more decentralization of the execution proc-

ess. Thus the changes being recommended, for example, with the Chairman of the Joint Chiefs or the Office of the Secretary of Defense or even the President and the Congress, are focusing more on the centralization of the decision process, deciding which systems and how to use the resources; and the other half that goes along with this is the decentralization of the execution process, giving the program manager the authority, establish a baseline, and getting Congress and the OSD out of the day-to-day execution of the process.

These two have to go together in order to successfully implement the full round of recommendations.

Mr. Chairman, those were the only points I wanted to make.

Senator QUAYLE. Thank you very much, Dr. Gansler. I think we will limit our first round of questions to 5 minutes, if that is agreeable with the committee. I wholeheartedly endorse the principle that you have outlined that we ought to focus on the centralization of the decisions and the decentralization of program execution. I think that is a very important principle, and one that I wholeheartedly endorse.

I would like if I may to turn to a parochial matter. I have a bill before this committee dealing with a couple of areas that you mentioned. Senate bill 2196. I do not know if any of you have had a chance to look at this but Dr. Perry, I am aware, in particular of your example of a microchip as a commercial product. One of the matters that we try to deal with in this particular piece of legislation is to make sure that when you go to a make or buy type of proposition, that we ought to encourage as much utilization of commercial products as we possibly can and stay away from military specifications, if at all possible. Our legislation deals with the commercial pricing certification requirement, and we limit that under our certification requirement to contracts for spare or repair parts that were entered into by other than competitive procedures. We then go on and define what the lowest commercial price really is, and provide for a couple of exemptions.

I wonder if any one of the three of you have had a chance to look at that particular aspect of our bill, and if so, do you agree with what we are trying to do? I think it is compatible with section E on page 23 of your report. Mr. Packard, Dr. Perry, whoever wants to respond. Dr. Perry.

Dr. PERRY. Senator Quayle, I believe that that is compatible with recommendations in the report. We would like to be able to come back to you and make some detailed comments on the specific comments and the specific aspect for it, but in the spirit of what you are proposing here, I think it is totally compatible with what we are recommending.

Senator QUAYLE. In that same vein, maybe you can come back to us in the second section of that particular piece of legislation that deals with regulation for allowing overhead on parts which the prime contractor has little value. I would appreciate that.

Mr. PACKARD. We have looked into that in some detail. As a matter of fact, there are a number of pieces of legislation that recommend the use of commercial products. Then there are also a whole lot of regulations that make it very difficult to do so; thus

there is an awful lot of pressure on the purchasing agent or the contracting officer not to go to the commercial products.

I think we have got to look at that aspect very carefully because I think there have been attempts before to make this work, and somehow they have not made it work. We would like to work with you and see if we can get that matter clarified, so it will really come about that way.

Senator QUAYLE. It would be most helpful. As a matter of fact, both of the provisions in this legislation deal with legislation that has already been passed. It deals with criticism of the current legislation that we have incorporated from our hearings last fall and put in the part of the legislation. Your help in giving us some specific answers to that will be most helpful.

Now, let me turn to the acquisition personnel and the alternative personnel system that everybody is talking about. In your report, you refer to the China Lake personnel system. I think you talked about expanding the system of the China Lake personnel system. I guess my first question is, how far would you expand that system? Would it be to all personnel, or would you cover just—primarily, I think, scientists and engineers who were the main concern of the China Lake experience.

When we were talking about an alternative personnel system, and you want to expand on it, what are we talking about? Can we try to narrow this down to give us some direction? Senator Bingaman has a piece of legislation that covers just scientists and researchers.

Mr. PACKARD. Let me outline the whole problem. In the two reports, we have pointed out that there have been some problems with the quality of the personnel from the lower levels all the way up. In saying this, we recognize that there are a very large number of very dedicated and very capable people in the Defense Department.

There are a number of different things that need to be done at the lower level, such as some modifications in the Civil Service regulations changing the classification, so that people who are doing these large-scale purchasing actions all around the country can be selected with better education. At the present time, they are prohibited from taking time off to go to school and learn more, so that is really an administrative problem that can be handled without legislative action.

We got into the China Lake experiment, as some of you know, because I had spent some time looking at the Federal laboratories. We made some recommendations as to how the performance of the federally owned, federally operated laboratories could be improved. This experiment had been going on out at China Lake and had been authorized for the laboratory at China Lake and another operation in San Diego; and this personnel system was obviously a substantial improvement.

It gave the laboratory manager the opportunity to reward people on the basis of performance. In the Civil Service system they were rewarded primarily on the basis of survival, and very little else, and that does not seem to be a very good way to do things; thus this particular system looked like it would be adaptable, and we

got some help from Senator Bingaman to get some legislation started on that.

We thought it would probably be the simplest procedure to simply expand that to include some acquisition personnel, some of the people who would be working particularly in the teams with the program managers. Now, most of the program mangers, I think, as you know, are military officers. There probably is room for more civilians in this process, and whatever the matter, there is need for better civilians through the whole organization; thus we recommended that procedure as a way to start.

Now, there are obviously other ways of doing it. The thing that you have talked about Senator Quayle, on these special teams of excellence and of enterprise, I think, is basically the same kind of concept we are talking about, but this legislation is already in the process; and we thought it was going to be amended.

Now, one of the problems is that any legislation that is enacted is going to take a little time to be implemented because you are going to have to get the procedures changed and so forth. We would like very much to see some action taken in this legislative year so that we can get this process started, and in a sense, that was the reason we selected that particular program. The legislation is already there, and it could be expanded, I think, simply, and that might be the easiest way to get something done.

Senator QUAYLE. My time has expired. Let me ask Senator Goldwater if he has any questions.

Senator GOLDWATER. I can assure you, Mr. Packard, that the majority of the Armed Services Committee are very strongly in favor of a biennial budget. We have been trying to get this year after year after year. We need some success and in other instances we do not. Your idea of a full time Under Secretary for Acquisition is a great idea. The problem is finding the right person to do it.

Those kinds of people are already making more money than we can pay in government, but when you start looking, we will sure help you. I heard your comments this morning on television, and you were stressing the acquisition time. This is another matter that the Armed Services Committee has always been concerned with. Why should it take ten years in this highly industrialized country to build an airplane or 10 years to build a tank or 12 years to develop a new communications system?

There are reasons for that and you have enumerated some of them. I would like to see you go into greater depth on this, because this is not a Pentagon problem altogether. These are commerical, factory, company problems. That is what you can help a lot on.

The one thing I wanted to comment more on here, because it has been a matter of interest to me for a long time, is the program manager. We develop officers in our service to be what we call operational people. We teach them to go out and win wars. The first thing you know, some good airplane pilot or some good ship driver or some good tank driver finds himself in the Pentagon for a couple of years managing a program he never heard of before, and he doesn't know which way to go to manage it.

When we find a good man, they are perfect. But we do not find many of them. You would be of great service to this committee and to the Defense Department if you could outline some program as to

how we might get these managers. I have actually discussed this with the academies to see if we might create a managerial part of the academics that they teach, but they do not lean toward that. I find a lot of our men who come into the Pentagon as operational people resenting the fact that they are there.

First thing you know, they say, hey, I would rather hang around here than go out in the field, but that does not create a good field of managers. I would like to see you give some additional thought to this. I think proper management will solve a lot of these problems. I am thinking, for example, of the B–1, at one time one of the most expensive programs we ever conceived, but under proper uniform management the aircraft was being brought in under cost and ahead of time. That is what we are after.

One more comment. I don't have any questions, but I have followed Dave Packard on this thing since the day he came to town, and every time he had the answer I went to sleep with it and enjoyed sleeping with it very much. [General laughter.]

One matter that everybody in this country, especially Washington, continues to ignore is the fact that we have the greatest redundancy in our armed services of any nation in the world. For example, we have a Navy that has an air force and an army. We have an Army that has a navy and an air force.

We have an Air Force that did not get off to a good start. We are young, but we have a couple of ships floating around. We have 13 training aircraft to train people how to fly. We have three different flight training schools, two different helicopter training schools, and we have four airlift groups.

I think if we could just get rid of all this redundancy, it would make a lot of people mad, but by God, we would have just as effective a force because we are the only country in the world that has this situation. Every time I look at the fact that we have five tactical aircraft, all made to do the same job, it does not make a lot of sense.

I apologize to you, Mr. Chairman, for making comments instead of asking questions, but Mr. Packard has more than answered all the questions I have ever had on this subject. Having known and worked with him, I know we are going to do all right.

Thank you.

Senator QUAYLE. Thank you, Senator Goldwater. Senator Levin.

Mr. PACKARD. Well, Senator Goldwater, I can comment on your observation. It is obviously a very important one. You know, one of the objectives of making this change in the chairman and giving him independence and an independent staff, is to get someone who hopefully would be in a position to make some of these decisions that have not been made properly before. And I think that if we can enforce this proposition of requiring a 5-year budget level to be presented and requiring the chairman to get the forces he wants within those budget levels, he is going to have to make some of those decisions, and that is one of the procedures that I think can be very helpful. I know it is very difficult.

The Secretary theoretically has the authority to do this. McNamara, I think, had a very good organization. He probably came closest to doing it, but it has not been done very well, and clearly it is not going to get done if you leave these matters entirely to each

individual service. They are going to want to have their own everything, as you know.

I think the move of strengthening the chairman, giving him his independent staff, and providing the vice chairman so you can get some inputs from the people in the field will provide a mechanism that can better deal with these problems.

Now, we started the program managers a long time ago. These propositions are not at all new. When we decided to go ahead with the F-15 program, that was one of the first programs where we insisted on having a good program manager. And Gen. Ben Bellis ran that program. You put a good man in charge, and give him the authority, and he can do that.

Now, as you know, there has been some effort to try and get the services to develop a career path in acquisition management, logistics, or whatever you want to call it. the services have all given lipservice to this.

One of the first things we did on our Commission was to get a report from the GAO, which I think you requested, to find out how well the process had gone; had it been honored more in the breach than in the observance. All of the services claimed they were doing this rigorously when you looked at specific cases, that simply was not so.

We recommend very strongly that that procedure be continued, and I think here the oversight responsibility of the Congress is such that you can just identify that problem and make sure that it is adhered to because the system is already in place, and all three services have agreed that there should be a career path for these people. The services have done that to some extent.

We are recommending that that be continued. We are also recommending that some continuing educational opportunities on a broader basis be provided for these people because this technology is moving very rapidly, and it is not only a problem of selecting the right person in the first place, it is also giving him a chance to keep up with things and know the latest techniques both in terms of management technology and other aspects of the program.

Those are in place and we started some of those things 15 years ago. I think it is extremely important that pressure be kept on that, and everyone we talk to agrees with it; but then we look at the facts, and it does not happen.

So maybe your oversight responsibility could be used a little more forcefully here.

Senator QUAYLE. Senator Levin.

Senator LEVIN. First, Mr. Chairman, let me join in congratulating Mr. Packard and the other members of the Commission and the staff for producing such an important report.

One of the things that this report does is to point out just how deeply entrenched are the current archaic procurement procedures. The Pentagon history shows us too clearly that the Department of Defense does not readily change without outside pressure.

That is why the Packard Commission recommendations are necessary and that is why Congress has found itself too often required to legislate.

Just a few examples of that: the Packard Commission calls for more competition. Congress has had to hammer away on competi-

tion, most recently because of the continuing alarming rates on sole-source procurement. We initiated the Competition in Contracting Act here in the Senate on a bipartisan basis. We fought for dual sourcing. We fought for more realistic pricing. We fought for increased purchases from the commercial sector, one of the major recommendations of the Packard Commission.

One of the things I would like to do in this brief opening statement is just look at what is before us today. In addition to the report of the Packard Commission S. 2082 contains a proposal for enterprise programs which would reduce the number of service regulations applicable to major procurement, would eliminate a number of reviews of major program decisions, and would beef up the role of the program manager.

The services have already testified that they are all for it. Your Commission recommends that the Enterprise Program principles be adopted and we just heard from you and Dr. Perry on that subject. But the fact is that these enterprise programs can be implemented without any legislation and could have been implemented all this time without any legislation, with few exceptions.

This is a perfect example where Congress prods the Pentagon bureaucracy in direction they should be able to go without a push. Look at the other bill that is in front of us today, S. 2151. Part of that bill would put into place an under secretary, an acquisitions czar as you recommend, and I happen to be all for it.

DOD is now all for it, although they never requested it. Now, creating an acquisitions czar does require legislation but other provisions of that bill could be implemented without any legislation. For instance, the proposed approval system for new starts for full-scale development and production.

So your report is indeed welcome, although it is in a way a sad commentary on the ability of DOD to change without pressure. If in fact, DOD could change and reform itself without prodding, we would not be here today.

Now, I would like to ask you a question about the Enterprise Program as it gets to the heart of the issue. Most of that program can be implemented without any legislation.

You have criticized the Congress, and I think rightfully so in many cases, for micromanaging the Pentagon. Here is a situation where we have a bill in front of us that goes into great detail on enterprise principles which could be adopted by the Pentagon without any legislation at all.

Are you telling us we ought to do it anyway? We ought to legislate in this area, even though legislation should not be required? Is that your recommendation?

Mr. PACKARD. Well, that is one issue of grave concern. There is no question about it; a lot of these things could be done. If you go back and look at two of our very important recommendations here, which are that there be more use of prototyping are two things that I put into effect over 16 years ago and thought they were the right thing to solve some of these problems. They did in fact work very well.

But regarding the inertia of the system, the bureaucracy caught up with it and the whole thing got put out. Thus, I am afraid the answer to your question is that the Congress is going to have to

continue to put some pressure on this; it has not worked very well without it, and I do not think that we are implying that you should not put on some pressure.

As a matter of fact, I think there are two aspects to congressional involvement on this issue. The first one is that there are certain things that need congressional action in order to be accomplished, and that is the approval of the under secretary, and so forth.

There are a few of those but not very many. I think it may be desirable to include in the recommendations some further instruction on how to do things even though they are not absolutely required. I do not know how far to go in that regard.

It is too bad, I think, that it has to be done, but this idea of these enterprise groups is an extremely important one. I wanted to make a very key point here. We are recommending that we use prototyping on a continuing basis, on a more extensive basis. We are recommending that operational testing be done early on, prior to getting a full-scale development.

One of the reasons why those two procedures have been abandoned is that the people get the idea that they add cost to the system. They add time to the system, and that was one of the reasons why the prototyping approach was abandoned.

I think if you look at the figures, the prototyping does add some cost, but it is only a very small percentage of the total program cost, and we somehow have to convince everybody involved here that that cost is going to have a payoff that is well worth the undertaking to do it.

The same thing is true of operational testing. The complaint is that it delays the program. I think I reported to some of you before that in the operational testing program we set up back in the early 1970's, Admiral Zumwalt called me one day and said they wanted to get rid of the operational testing because it was delaying one, two, or three of their programs, and wouldn't I come out and look at them, which I did.

It turned out that every one of the programs looked at showed severe problems had been uncovered by operational testing. I told Admiral Zumwalt, who was then CNO, that he had better continue it, but somewhere along the line they dropped it.

Thus, I do not think there is any answer to this.

The Department has made some progress and I have made the point that Secretary Weinberger had done some things in the right direction, and this is one program that is a good example. He has developed a better rapport with the Chiefs and so forth. And if you look at the progress over the long term, you find that there has been some improvement in terms of the percentage of cost overrun, in terms of the time it takes a program to be accomplished, and in terms of the performance against specification; thus there has been some progress, but it is awfully slow and awfully gradual.

As much as I would like to see some other answer, I do not think it is probably going to be necessary for the Congress to become involved. I would hope that it could be done by concentrating on some of the basic principles and not spending too much time on the day-to-day line details of specific programs. And we hope to have some guidance on that.

Dr. GANSLER. Senator Levin, I would like to make an observation relative to the Enterprise Program and the idea of being able to implement it exclusively now within the executive branch. I do think that a lot of what you said is true; a lot of these things can be done. However, I think it is very clear that in some of these areas Congress can provide help.

For example, in the Enterprise Program, one of the key things about managing it is to maintain stability through the program, via the budget and the requirements process. And one of the things in the bill is clearly the concept of moving toward milestone funding at the beginning of full-scale development and at the beginning of high-rate production. That would require congressional action which I think would give a signal to the executive branch that you are serious about maintaining the stability as well.

So I think it is a joint effort on the part of both sides.

Senator LEVIN. Thank you. My time is up.

Senator QUAYLE. Senator Wilson.

Mr. PACKARD. I would like to raise one point. I think it should be modified so that the Defense Enterprise Program Manager would be appointed by this new Under Secretary, and that he would be in the services a good part of the time; but it is important that if this procedure is undertaken, it be done prior to full-scale development and you might want some people in DARPA to be doing this; you might want some people otherwise, so it ought to be broadened a little bit if you want to apply it.

Senator QUAYLE. Senator Wilson.

Senator WILSON. Thank you very much, Mr. Chairman.

First, let me associate myself with much of Chairman Goldwater's remarks. I think we are deeply in debt to Chairman Packard and to the members of his Commission.

Let me in my 5 minutes focus on a narrow aspect of the acquisition reforms that we are so interested in. In an action entirely independent of that of your Commission, I have asked the General Accounting Office to look at the subject of inventory control on the part of all of the services and on the part of the Defense Logistics Agency.

They have determined, among other things, that in the procurement process there is the potential for a very substantial amount of oversupply. And as an example of that, just one example among many, and by no means an isolated example, the Army was determined to be engaging in a practice whereby they were sending unit sets of equipment to commands in the NATO Threater in such excess of not just need, but the ability of those units to store, much less move that equipment, that in consequence these units were sending that equipment back to the United States and within 2 months' time, other units in the same theater were requesting and getting shipment back across the Atlantic for the second time of these unit sets of equipment.

Now, they have since dealt with that, or are in the process of attempting to deal with it, by creating what they call the Army's European Redistribution Center to monitor so that the left hand knows what the right hand is doing and they can avoid this unnecessary transportation.

One of the problems, though, and I think the serious point that came up in the GAO study was that a number of the services, not just the Army, felt that at the time of procurement in terms of their acquiring spares for weapons system, that they were engaging in an overpurchase of certain spares and discovered over time that they needed far more of certain items and far less of others, that they were getting about a 500-percent supply of certain items that they simply did not need, and that they had about 20 percent of others.

A tank unit, for example, might be short on what was necessary for treads, and have an oversupply of gunsight parts.

They attribute this to a peculiar feeling that seems to be coming in all of them; that is, they do not have what I think they termed maintenance engineering officers and sufficient supply to deal at the time of procurement with those from whom they are requisitioning the spares. In other words, the buyer in this case, the Army, was overbuying certain spares, underbuying others because they did not have the capability to determine what their actual need was.

Now, I do not know whether in the course of your examination you encountered this.

Their answer to me as I sought to pursue this with them is that they think that they need to rectify the situation by assigning additional maintenance engineeing officers, people who know the system well enough to be able to project what the real need will be and avoid all these problems.

I cannot argue with that because there seems to be a clear need of some response, but perhaps in your examination and your inquiry, you found this and have some other suggestion. I would be interested in whether you would affirm that or whether you think there is a special need and a special requirement to train these maintenance engineering officers to avoid the kind of oversupply or undersupply that came up in so many of these examples.

Mr. PACKARD. Well, there are indeed some problems with the whole supply system, spare parts and maintenance and so forth. We are doing some additional work on that.

One of the problems that I think is apparent to many people already is they simply do not have the data processing capability to manage this vast array of material that is being purchased by the services and by the Defense Logistics Agency. And one of the steps that certainly should be taken is to get their data processing capability up to date.

Right now they do not know what each other has; thus if they happen to be short at this particular depot, instead of checking with everybody else or checking the records, which could be done if they had an adequate system to do it, they take the other process and order something different.

Now, when you get to the issue that you have talked about, there has been a procedure that goes back a long time and that has to do with the need to determine the spare parts necessary to support a piece of equipment in the field.

This is done at the time the equipment is being purchased and with the very logical reasoning that while you are producing the parts to produce the equipment, you are in a good position to

produce the parts to provide the spares and that is the cheapest time you are able to do this.

The difficulty is that this problem has been dealt with by having provisioning teams from the contracting office, or whoever it is, get together with people from the industry and go through a list and try to decide how many of this, how many of that, and how many of the other things they need to support the equipment.

And there is no way that they can know for sure at that particular time what kind of spare parts they are going to need. If you look at this new tank, you have got a turbine engine in that. We have not had much experience with turbine engines in that particular application, and I doubt that anyone could have predicted with accuracy how to do this.

There are some ways that this could be improved, and we have talked about them. One of them is to depend on the contractors to provide support for an initial period until you actually got some experience and learned what sort of spare parts package you needed to support your equipment.

That then gets into the problem of having to go back and make special parts and so forth and that increases the cost. We do not have any pat answers for that. We are continuing to look at it. I think we can make some recommendations, but that problem has been in the system for a long, long time.

I can remember it back in the 1940's, so this is not anything very new; but it is a very serious problem.

Dr. PERRY. Senator Wilson, could I add a comment to that?

Senator WILSON. Please do.

Dr. PERRY. This is not only a serious problem, it is a pernicious problem, and not only does defense have this problem, but industry has it as well. Inventory management is a very difficult aspect for everybody, but one specific aspect of our recommendations has to do with increasing the use of commercial components and devices. To the extent that that is seriously implemented, it opens up the possibility of allowing the inventorying of spares and parts of these commercial items, at least allowing the depot level inventory to be done by the supplier rather than the Government itself.

You still require spares in the field, but the depot level spares could be reduced substantially provided that the supplier had the responsibility of maintaining them.

Senator WILSON. Thank you very much. Thank you, Mr. Chairman, I appreciate your courtesy.

Senator QUAYLE. Senator Dixon has asked to speak at this time for a short period of time.

Senator DIXON. Thank you very much, Mr. Chairman. I appreciate the fact that my friend from New Mexico will briefly yield to me.

I just want to join my colleagues, Mr. Packard, in warmly congratulating you on this excellent report. I want to thank Dr. Perry for spending an hour with me this morning to discuss this report in detail. And I wanted to announce to the subcommittee and to you, Mr. Packard, and Dr. Gansler and Dr. Perry, that we have prepared the appropriate amendment to S. 2151 to exactly parallel your report pursuant to my conversations with Dr. Perry this morning.

We had some reservations, frankly, about whether the Office of Operational Test and Evaluation ought to remain as an independent agency or not. I am entirely persuaded of the logic of your point of view, so I just wanted to say that the amendment to 2151 now on file as of today with the distinguished chairman of the subcommittee, Mr. Wilson, and with any others who wish to be cosponsors, is now on file and it exactly parallels the Packard Commission Report.

I know my colleagues, and particularly the chairman of the subcommittee, the chairman of the committee, the ranking member and others who have been involved are greatly appreciative of the many, many hours you all spent on this very, very fine report.

Mr. PACKARD. We appreciate that very much.

Senator QUAYLE. Senator Bingaman.

Senator BINGAMAN. Thank you, Mr. Chairman.

Let me join, obviously, in commending you on the report. Mr. Packard, let me ask about the recommendation of the alternative personnel system which you really have been the moving force on here for sometime.

You came to me and to other Members of Congress to urge us to introduce legislation on this and we did. And that is the inception of S. 1727 which I think deals just with scientists and engineers.

It is my understanding your thought is that that should be amended now to cover some defense acquisition personnel as well. And then the alternative personnel system, as that amendment would provide for it, would go a long way toward addressing the problem of attracting and retaining quality people in the key areas that are needed.

Is that an accurate understanding?

Mr. PACKARD. Yes; that is exactly what we think should be done, simply because we think that is the best way to get a start on this program. We can recommend some additions to the people we started with. I think that this is a situation in which we get that situation in place and then it would not be difficult to increase the numbers involved as it became necessary from time to time.

There may be some other way to do it. I would not object to some alternative but that particular procedure is one that has been tested and proven to work, and it could be put into effect very quickly, if we could just get the legislation through.

We are having a little trouble with the OMB. I am trying to get the domestic council to approve it so we could get some support from the administration. We have not been able to get that done yet. We are going to just keep working on it and see if we can do so, but that is precisely the step that we think could be taken and that could be reconciled with what Senator Quayle is proposing on this group of people.

I think the important thing is to try and get something started since it is going to take a little time for it to be implemented and get it in place and working, and then it could be expanded to additional people as might be necessary.

Senator BINGAMAN. Let me ask about two aspects of it that we have had quite a bit of testimony on as we have had hearings on both Senator Quayle's bill and on my bill. That is, first, the removal of the pay cap. How important is that? We provide that for 5

percent of the people involved, it would be possible to pay in excess of the existing pay cap.

Second, could that kind of personnel system be implemented without additional cost? Is it your thought that you could get enough reduction in personnel or other savings to allow that to happen without additional cost.

Mr. PACKARD. I think if you go back to what Dr. Perry has said and if you look at the successful programs, they have almost all been done with smaller numbers of better quality people.

I have taken the approach, and we talked about this with some of the laboratory managers who clearly said they would rather have a smaller number of qualified people and have some incentives, and then they would be able to get better research done.

So I think that can be done. But in practice what has happened is that at the China Lake experiments, the costs were a little bit higher than they were at other laboratories because there was no pressure to keep the employment number down.

We have spent a good deal of time talking about what can be done to specifically reduce the number of people involved in these programs. We do not like the percentage across-the-board cut because it tends to eliminate the wrong people. But it seems to me that we might be able to devise a formula which say that if this program is put into effect, you would be obligated to reduce over a period of 2 or 3 years by a certain percentage the total number of people, and I think you could do it with perhaps even reducing the total costs.

Senator BINGAMAN. Thank you very much, Mr. Chairman. My time has run out.

Senator QUAYLE. Senator Nunn.

Senator NUNN. Just for clarification purposes, I may have missed this at the very beginning, but it is my understanding you just issued a report that incorporates the original report, but provides more detail. Is that accurate?

Mr. PACKARD. That is correct.

Senator NUNN. And the detail, Dr. Perry, you were giving today is contained in this report?

Mr. PACKARD. He summarized what was in this report, a "Formula for Action." Just for example, if you look on pages 12 and 13 in that report, you will find those six specific points Dr. Perry mentioned listed.

Dr. GANSLER. Senator Nunn, you might point out this is just on one section, which is the acquisition section of the interim report, and not the total interim report.

Senator NUNN. Does this cover everything that is going to be covered on acquisition, or is there more to come?

Mr. PACKARD. There will be some additional things we are working on. One of them I have already indicated is this question of this spare parts and the supplies of the Defense Logistics Agency and so forth. We are doing some additional work on that.

We are going to try and make some recommendations on how the budget could be presented more effectively in terms of roles and missions, instead of line items. But that is not specifically an acquisition problem. It relates to an acquisition problem.

And we are going to have some additional recommendations on the contractor relationship, such as the codes of ethics for contractors and so forth. We will have two or three additional reports. Whether these additional sections will be brought out separately before our final report or as part of the final report, we have not yet determined. But this report, "Formula for Action," rounds out some of the recommendations that were in our original report and adds to them.

Senator NUNN. Just for further clarification, the President, as I understand it, issued an Executive order last week that would implement the Packard Commission recommendations. Now, which recommendations is he implementing?

Is he implementing what was contained in the first report?

Mr. PACKARD. He is implementing the interim report, which is the one you received on February 20.

Senator NUNN. Is he already committed to this more detailed report you have presented today?

Mr. PACKARD. We submitted this report to him, and he understands that it enlarges on those things that he has approved; but he has not gone through and specifically approved any of the items in this report we are presenting to you at this time.

Senator NUNN. Have you received a reaction from the Secretary of Defense on the second report?

Mr. PACKARD. This really does not add a great deal, except in terms of detail. Well, as a matter of fact, we just presented this report to him at the beginning of this week, so it is too early go get a reaction from him.

Senator NUNN. I noticed Dr. Perry led off by stating your conclusion was there was unacceptable inefficiency in the Department of Defense, and I just wondered whether the President or the Secretary of Defense has subcribed to that.

Mr. PACKARD. There are undoubtedly a few things he will not agree with yet.

Senator NUNN. A couple of quick questions. Biennial budgeting, I do not know whether you have focused on it, but there is a provision of law that passed last year that requires the Secretary of Defense to submit that 2-year budget.

We have to struggle here in Congress to find out how we are going to correlate authorizations and appropriations. I think the authorization committees on both the House and Senate side—of course, that was in the authorization bill—are fully dedicated to moving in that direction. But we are going to have to really try our best to get the appropriations committees to do something very similar to that.

The question is do you consider biennial budgeting to be a nice-to-have part of your recommendation or is it a necessary part? Is it an essential part? How key to your recommendations is this biennial budget?

Mr. PACKARD. To me the most important part of the recommendaton is to get the 5-year planning in, to encourage the President to submit to the Secretary of Defense a 5-year program, and then require that the planning be done within those fiscal constraints.

If that is done, that will put stability in. Now, the biennial budgeting would add some stability. It would give, I think, both people

in the Department and in the Congress more time to look at some of the larger issues and not have to go back and look at everything quite so often. And I think it would be helpful and I think we understand about the appropriation process and hope that perhaps we can present some ways of doing this. We have someone working on this problem to see if we can come up with more specific suggestions on how it can be done.

Senator NUNN. That would be very helpful. It would be very helpful for us to have that.

Mr. PACKARD. We will try to have something on that for you that we hope will be helpful.

Senator NUNN. Let me ask just one more quick question, if I may. My time has expired, but if I could ask just one more brief question, Mr. Chairman.

The procedure you outlined, Dr. Perry, on authorizations, about getting certain reports and then, instead of authorizing by the year, authorizing up until another, I call it, milestone, would this be milestone authorizations? Is that what you are talking about?

Dr. PERRY. Yes, it would be. And aside from the front-end R&D activities that would come in the regular annual or biennial authorizations, there would only be two major authorizations for the program, one multiyear funding at the beginning of full scale development and another multiyear funding at the beginning of high rate production.

To the extent that Congress operated that way on the major programs, the question of annual versus biennial does not become such a critical issue in the stability of the program since most of the programs will be multiyear.

Senator NUNN. On major acquisitions, that would be taken care of.

Dr. PERRY. The stability comes from multiyear funding in that case.

Mr. PACKARD. I think that is right, and you do fund multiyear shipbuilding, for example. Thus, it may be possible with a multiyear funding and the milestone approvals to accomplish the stabilizing that we hope can be encouraged.

Dr. GANSLER. But it would require appropriate legislation.

Mr. PACKARD. But I think we can also say that there will have to be a little flexibility to work with the year-by-year basis, just from a practical matter of politics, I suppose.

Senator NUNN. I thought this year we might pick out six or eight projects that might constitute pilot projects for milestone authorizations.

Mr. PACKARD. I think that would be a good way to start. That would accomplish what you are trying to accomplish and then move toward a total budgeting if it can be done. If the total budgeting cannot be done, it certainly should be done in the critical areas that relate to the major weapons systems.

Now, there are other things that are important, too, but that is the big issue.

Senator NUNN. I would like to pick out a few of those candidate pilot projects and get your thinking about whether they would be appropriate. I also intend to discuss this with the Department of

Defense. I think it is good for us to get started. This is a concept I have been attracted to for a long time.

Mr. PACKARD. Yes. I think there are some prospective programs and some things that should be done in the next couple of years that are not up to full scale development yet. And we might suggest some of those that you should look at. In other words, it does not all have to be done the first year. You can pick it up over a period of time.

Senator QUAYLE. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman.

We have a number of things in the report here I am sure we are going to want to communicate with you on in more depth as time goes on. I am particularly interested in the long-range planning and the broad-policy issues, how our military policy should reflect our long-term foreign policy, and not the other way around.

Also, in your opening statement the fact that reforms have made some of the problems worse. We might want to go over some of that in a little more detail, perhaps at another time.

But in the limited time here today, I would appreciate your comments on the mil specs. I have observed in the past that, at least it has been my view, that we overdo our mil specs so much sometimes that it gives our contractors a great deal of problems and results in considerable overcost. And as you point out in your report, the tradeoff between performance and cost gets in there.

You point out how we should be trying to get industry more involved with the development of new products. What I have advocated in the past is that we contract out the problem rather than trying to mil spec it to death and make everybody live up to a certain mil spec.

I would appreciate your comments; whether you think we can do a little bit more in that direction or not. At the bottom of page 19 in your report here, you address this issue, the competition of ideas and technologies as opposed to just rigid mil specs.

I would appreciate your comments, any of you, on that.

Mr. PACKARD. Senator Glenn, you were not here, I guess, when Dr. Perry described the particular situation in integrated circuits. I think you came in later.

Senator GLENN. I was not, I am sorry.

Mr. PACKARD. Bill, why do you not go through that again for Senator Glenn.

Dr. PERRY. There are two separate issues related to mil specs. You touched on both of them. One is applying too rigid specifications to a system, instead of writing the functional requirements. The item you are referring to on page 19 in the report is dealing with that issue. What you should be doing instead is describing functionally what you want done and then allowing the contractor to determine how to do it. Then you get the competition of ideas.

That is one aspect of it. Then, at a much more detailed level, is the mil specs that are put on components and devices that go into the system. The example I gave before you came in was on the integrated circuits or microchips. Here we know we have extensive data that shows that the costs of an integrated circuit that is put through military specifications is 3 to 10 times the cost of the equivalent commercial chip.

It is a very heavy price to pay, and after careful consideration, we concluded that with the quality and reliability of today's commercial chips, the cost is not justified.

To answer you question, we believe a major increase should be made in the use of commercial component devices, not just a small shift but a major shift made in that direction.

Mr. PACKARD. This is something in the case of the integrated circuit that has come about in the last 4 or 5 years. In part, the Japenese pressure on quality has done this. As you know, they are putting in some very sophisticated quality control systems and have produced parts that have much better quality than even some American components.

The American manufacturers are now catching up with that, so that the major quality criteria of the commercial products is quite often better than the mil spec products. The products are more up to date because the mil specs take so damn long that the technology is out of date by the time you get your mil spec written.

Thus you not only save costs, but you get a better component out of it. That I think is an example of where some real progress could be made.

Senator GLENN. We had our Government scientists procurement people concentrating on the state of the art that they think can be achieved in a certain time period, and say here is what we would like to achieve with this technology. Then let the manufacturers go at it.

They know the basic things. They know what kind of cold or heat or sand or whatever it is going to have to operate under, without having to come up with some ridiculous mil specs like what we do in some cases.

Mr. PACKARD. That is one of the advantages of the prototype program. You give a general contractor some general performance specifications and tell them go to work, and we will test them against each other and choose the best one. It will save a lot of time in contracting. You do not have to waste a lot on contacting details. I think there are some real opportunities to get away from the rigid military requirements.

Senator GLENN. Let me make just one comment, if I might. I am with you on this, but let me turn my hat around and argue against you.

Some of our new equipment, technologies, and weapons systems, you have to literally design the jigs or the equipment to make even the prototype. So you are getting into some systems, at least, and I guess some of these are black programs which we cannot talk about in detail, but some of them require tooling of a nature that you hardly save anything.

In other words, you are pretty well into your development costs by the time you complete a prototype. Is this a problem you see that is going to make future weapons systems even more expensive?

Mr. PACKARD. It is hard to generalize. There are some of the new processes which you cannot do with simple tools. You have to produce equipment.

Senator GLENN. You cannot lay it up by hand, in other words.

Mr. PACKARD. You cannot lay it up by hand. Some of the type of materials that are composite materials cannot be pasted together. You have to have very careful process controls. On the other hand, I think the people that are doing this work are building up the equipment and the resources to do that. Subsequently, I do not know that that is necessarily going to make prototyping that much more difficult.

Dr. PERRY. There is a countertrend in technology which introduces more flexibility in design through computeraided engineering and design allowing more flexibility in manufacturing through computer-integrated manufacturing.

Both of those trends are operating in favor of this move toward prototyping and are countertrends to the one that you are describing.

Senator GLENN. Thank you, Mr. Chairman.

Senator QUAYLE. Thank you, Senator Glenn.

We will start a second round if it is OK, and we will limit it to 5 minutes, as we did in the first round.

I guess I would like to get a feel on what you found was basically wrong with the DSARC process that we have, and how is it really going to be improved with the joint requirements management board, which as I undestand it you have essentially the same people that are going to be on this board, maybe a little differently. First of all, what was wrong with the DSARC board and how is this board going to be that much more effective?

Mr. PACKARD. Let me start out with that, and I will let Jack make a comment about this.

Dr. PERRY. This is the man who created the DSARC board.

Senator QUAYLE. We will get some good history here.

Mr. PACKARD. That was something I started when I was there a few years ago. The DSARC group included essentially only those people in the Department of Defense who were working with the program: the DDR&E, the director of engineering, installation, and logistics, systems analysis, and the comptroller.

As the one who was basically responsible for the procurement program, I chaired the DSARC. Thus we had a very small group of people, and our function was to try and be sure the programs had reached a certain point before they moved further.

In a sense, you were trying to do some of the same things. One of the things we did not have in the DSARC was the input from the ultimate user, the unified and specified commanders, and that is one thing that this new process will do. Also, this process will bring decisionmaking to a higher level, making the Chairman responsible for getting force planning built within the 5-year budget constraints, and then they will be in a much better position to force tradeoffs.

I think what happened with the DSARC is that as it grew it turned into a debating society rather than a small decisionmaking group, and it did not have the inputs from the user. We did not realize the importance of that at the time.

Therefore there is a fundamental change in terms of getting user inputs and getting this process up front further and tying it more closely into the total resource allocation procedures that we are recommending with the reforms for the Joint Chiefs.

Senator QUAYLE. Dr. Gansler, do you want to tell us what went wrong there?

Dr. GANSLER. I think the principal differences that are proposed here, first in terms of the two individuals who are going to be making these important decisions, which is the start of full-scale development, are that for the JRMB, this new Under Secretary of Acquisition, who is not the advocate and is not the R&D person, is the one who is trying to evaluate that.

That is different than the current system, where the advocate is the one making the decision.

Second, the other person, who is also new, namely the vice chairman of the Joint Chiefs, is going to be representing the user. And that is an important decision because what you are trying to do at this decision point, the beginning of full-scale development, is to ask two important questions.

First of all, you ask whether this system is affordable, and that means a quantity-quality comparison, which you want the user and the developer to be involved with. Your want to make sure that the user gets what he thinks he is getting in the quantity that he needs it, and that is what this decision is going to address.

Second, as Bill Perry was saying, you want to address the make or buy decision in an objective fashion, and again you cannot have the R&D advocate saying that we need a new system to be developed. You need again, someone objective to be able to say, can we not use this other system that is already available either in another service or in the commerical world or even from another country.

Thus you have to get a different group of people asking somewhat different questions. We think that elevating it to a higher level, as Mr. Packard said, will change what is now a very large group of people taking part in the DSARC process.

We heard it referred to during our press conference yesterday as the birthday party for the program, in which, you know, everyone comes to celebrate the blessing of this new program. This is contrasted to a real questioning process between the user and an objective representative of the acquisition world as to whether this program is ready technically, is affordable in terms of a better view into the pricing of it, and then does it have a good baseline that we can release and that the Congress and the Office of the Secretary of Defense can get away from and let the service manage to the next milestone.

I think that is the concept that is being proposed here. Thus it has more than just a change from the DSARC. It has the new players. It has a different set of questions, and we think there will be a different perspective put into the planning process.

Senator QUAYLE. Let me just ask——

Mr. PACKARD. Let me add one other thing. We have not specifically said that the DSARC should not be continued, and it may be that the new Under Secretary would want to continue something like this, because he is going to have the research person, an acquisitions and logistics person, and the operational testing person.

Thus he may want some forum to make sure that all of those pieces go together, to ensure himself that he is prepared to go to the Joint Requirements Management Board with the right recom-

mendation. We felt that we would leave that up to the person that came into that job.

Senator QUAYLE. I will just ask one other question on that point. Then I will yield to Senator Levin.

Why did you make the Under Secretary for acquisition and the Vice Chairman of the Joint Chiefs of Staff cochairmen? Why would you not want the Under Secretary of Acquisition to be the chairman of this group in order to ensure some centralization at the policy level?

Mr. PACKARD. As I think you know, the reason we did that is because we recommended establishing the Chairman of the Joint Chiefs as the official representative of the unified and specified commands. He is the person that works with them and makes sure that their views are presented in light of the Joint Chiefs.

Thus, he has a very special role in order to maintain this close relationship with the users out in the field. We felt that he was the one who was going to be communicating with the users, and it is his responsibility to get their views in the form that the Chiefs can consider when the issues are taken up by the Chairman.

Therefore, he is the logical representative of the user. The Chairman could do this but the Chairman has other functions to perform. So ultimately, these recommendations will be made to the Secretary for his review. That is why the Vice Chairman was chosen for that particular spot.

Senator QUAYLE. Senator Levin.

Senator LEVIN. On that point, what happens if the two cochairs do not agree?

Mr. PACKARD. I did not understand that.

Senator LEVIN. What happens if the cochairmen do not agree? What happens then?

Mr. PACKARD. Well, we anticipated that and we simply say if they do not agree, then they both present their individual recommendations to the Secretary and he has to decide.

Dr. PERRY. That could happen even if they do agree.

Senator LEVIN. Does the board act by majority rule?

Mr. PACKARD. No.

Senator LEVIN. Will that board operate by majority rule?

Mr. PACKARD. We are recommending that the cochairmen have the final vote. There is no majority vote. These two individuals make the final decision themselves.

Senator LEVIN. On the acquisitions czar question, I am interested as to what extent that czar is going to be able to tell program managers what to do. Can that acquisitions czar direct a program manager how to do something?

Mr. PACKARD. I think our concept of this is that this acquisition manager establishes the policies under which the program managers are to operate. Now in thinking about it, it is very likely you could go further than that. I always relate these things to the experience I had when I was deputy, and I had the authority, if I wanted, to direct a program manager to do it.

I could actually tell the services I wanted a particular person to be a program manager on a particular project.

Thus I see this person as having essentially the authority of the Deputy Secretary in the acquisitions process, but his primary role would be to establish overall policy and to evaluate performance.

And there is one very important aspect which has not come out in our recommendations, but I do not know whether you have heard some of the theories of modern management, one of which is management by wandering around. I found that when I was the Deputy Secretary, if I could get out and visit some of these programs personally, I could find out a heck of a lot more about what was going on than by listening to all the reports that were going in.

What I had in mind was having a full-time person here that had a little time to get out and see for himself what was going on. We did not bring that idea out in the report, but it is what I had in mind when I said you need a full-time person on this job.

Senator LEVIN. Your report says that full-time person will be supervising the performance of the entire acquisitions system. Is that your intent?

Mr. PACKARD. Yes.

Senator LEVIN. It says also that he should assure that an appropriate type of procurement is employed. So it seems that he has got responsibilities much beyond setting policy and doing assessment of how well people do their jobs. I think what you said was that you could go further and that this Under Secretary could have all of the powers that the Deputy Secretary has over acquisition.

Mr. PACKARD. That is essentially what we are saying.

Senator LEVIN. What powers does the Under Secretary have over acquisition?

Mr. PACKARD. The Under Secretary could direct that all the acquisition be done by somebody other than the services. We are being very specific on that point: and we are saying, as I think was brought out, that the policies and the decisionmaking should be centralized, but the implementation should be decentralized.

We specifically pointed that out, and we would not recommend going to a completely centralized acquisition corps.

Senator LEVIN. I think there is an ambiguity here that it is important that we clarify. You say the implementation should be decentralized. Would you add a caveat to that, that is unless the Secretary or the Secretary's deputy wanted to centralize?

Mr. PACKARD. Well, I feel very strongly that it should be decentralized. I think the only question is that it would not always be decentralized for the service, as I indicated, because you might want DARPA to do certain things. You may want to set up a special program.

I think the concept of decentralization is very important, but this is simply too big a job to try and centralize and manage.

Dr. PERRY. Senator Levin, could I add?

Senator LEVIN. Yes. I guess my time is up.

I just do not understand how this person can assure that an appropriate type of procurement is employed, as you are recommending in your report, and at the same time you are saying it all should be decentralized. I just do not understand that.

It seems to me there is an ambiguity there.

Dr. GANSLER. Could I attempt to answer that specifically? In the establishment of a baseline for this program at the point of the initiation of full-scale development, the Under Secretary is personally involved in making the decision on the release of that program and that has major decision parts of the program, such as type of contract, annual budget, performance required, and so forth.

Once you have established that, then you delegate to the service the execution of that program within those guidelines and the day-to-day management is no longer his responsibility as long as he stays within those guidlines and within reason.

Senator LEVIN. The supervision is——

Dr. GANSLER. The day-to-day supervision of the program is the responsiblity of the program manager, and the two levels immediately above him, for instance if it had been delegated to the service, in that service.

Senator LEVIN. It says here he should supervise the performance of the entire acquisition, not day to day, week to week.

Dr. GANSLER. That is an oversight role in the sense of monitoring to make sure that he is still within the intended guidelines, and baseline. I think you are raising and important distinction, which is proper.

Right now, there has been a lot of accusation that OSD and the Congress are too involved in the day-to-day managment of programs, and we want to get that out of the execution phase, but at the intitiation stage, they should be very much involved. They should get involved in deciding the type and length of the contract and kind of performance.

Those are important decisions that need to be made up front, and then oversight management after that.

Senator LEVIN. My time is up.

Senator QUAYLE. Senator Bingaman.

Senator BINGAMAN. Thank you.

Let me ask about this milestone, too. I am concerned that perhaps by the time you get there some options may have been closed off. I do not know if this is the case, but are you confident that there is adequate advocacy somewhere built into the system for upgrading the existing system, instead of going with a new system?

Is that something that—I am not sure exactly where that input comes from. Who would have it in their interest to urge the upgrading of an existing system as one option to be considered?

Mr. PACKARD. That decision would come before the decision to go into full-scale development because you would be essentially deciding you are not going to develop a new system and you are going to use an existing one.

These are the decisions that we think would be forced on this Joint Requirements Management Board. If you have done some preliminary work and you have a whole new system that is going to cost so much and achieve certain things, that is the time you ought to see if there is an alternative that would be less expensive that should be considered.

After you get into the full-scale development of a program, at that point you have decided already either you are going to develop a new system or modify an existing one. I think the decision should be made before that time.

Senator BINGAMAN. Let me ask a question, and perhaps Dr. Perry would want to comment on this.

One of your recommendations is that you assign to DARPA a specific mission in the conduct of prototype programs. You are also suggesting that we put much greater emphasis on prototype programs than we have before. Now that we assign this to DARPA, this is a major additional mission for DARPA as I see it.

Could you elaborate, any of you who would like to, on how this would be implemented, how DARPA would interface with the services to carry out this kind of a mission, and how extensive a new activity this would be for them?

Dr. PERRY. DARPA's role is to conduct exploratory research on those technologies which could be described as both high leverage and high risk; therefore, potential programs are very significant.

We are saying two things here. One is that in these programs they should, as a matter of course, conduct them with prototyping and through operational testing.

The second thing we are saying is that in other programs if for any reason the service is not conducting enough adequate prototyping and operational testing, DARPA might be used as an alternative or a competitive way to achieve this.

The basic thrust here is to increase the emphasis on the services doing prototyping and operational testing, and we think DARPA will be a useful stimulus for doing that.

Mr. PACKARD. I think it is important to note that DARPA has been doing this. They have been doing an increasing amount of this, and as a matter of fact, there was some concern that they may be spending too much of their money on prototyping and not enough on some basic research.

There has been concern on both sides of that problem. We think that this would provide an alternative beyond those alternatives that the services themselves might come up with.

In considering this issue, we have looked at some decentralized industrial organizations where the new product responsibility is highly decentralized, yet they find it very desirable to have a centralized laboratory to explore ideas that the divisions are not willing to or are not interested in doing themselves.

This provides another alternative of bringing new ideas up to the front, and we think those new ideas should at some time be pursued to the point of prototyping and evaluating how valuable they are. It would be very desirable to have that much done for the service, who could then take it over and put it into full-scale development.

Dr. GANSLER. We might point out that the focus of this effort, particularly in DARPA, would be in the nontraditional technologies and nontraditional mission areas.

Senator Levin, before you go I might point out I think I found out where your problem was that you were just raising before.

You know, in the wording on page 16 we say that the Undersecretary for Acquisition should supervise the performance of the entire acquisition system.

I think what we are trying to distinguish there is the overall acquisition process as contrasted to a programs acquisition of a particular product. I think that distinction may be one of the things

that should be clarified. The day-to-day program management is not what we are talking about there. That is the overall acquisition system per se, the whole process in the DOD. That may have been the distinction.

Senator LEVIN. Senator Bingaman and Senator Glenn, would you yield for a followup to that point.

Senator QUAYLE. Go ahead. He has the floor.

Senator LEVIN. If that Undersecretary finds that the policy is not being followed, can he then direct the program manager to take an action?

You are shaking your head, but I do not know whether you mean yes, he can, or not? You have got someone who is going to set policy. I go out there and I see you are doing something, which in my judgment as a czar violates that policy.

Can I tell you or your service Secretary to do something to follow that policy, take a specific action in that program in order that our policy be carried out?

Dr. GANSLER. Let me answer, and then I will let Dave answer. I would say through the established link which is established within the services, it would be the intent that we go through the service acquisition executive down to the program manager.

Senator LEVIN. Can he tell the service acquisition executive to do it in a certain way and tell the manager to do it in a certain way in order that the policy be implemented?

Mr. PACKARD. Let me just give you a particular case that might help here.

You like the services to have a fair amount of flexibility, but you do not want every service to go out and invent different ways of contracting so that every contractor has a different kind of procedure to deal with from service to service.

Thus, one of the responsibilities, I think, of this person would be to see that the contracting policies are unified between the services. Hopefully you would give the services some flexibility. If they came up with a better idea, that idea could be adopted, but you would not let each service run off and develop a completely different set of contracting procedures. There seems to be no need to do that. It is confusing and would add to the costs.

Therefore, he would have some responsibility of coordinating the policies and programmings, but the service Secretary is an acquisition person who would be running the programs. Presumably, if things got going a little bit in the wrong direction, he would simply have some discussion and hope the service would move in that direction.

Senator LEVIN. Hope but not direct.

Mr. PACKARD. You know, that is the question. It all depends on what it is and how serious it is.

Senator LEVIN. I am running on Senator Glenn's time.

Dr. PERRY. Let me add one point to that since I wrote the language that you are questioning.

My intent in that language was that the answer to your question would be yes; on exception, when necessary, the defense acquisition executive would direct an action on a program. Good management principles say that would be an exception rather than the rule, but it is an authority which he would have.

Moreover, he has the authority to kill the program or he has the authority to relieve the program manager. Because he has those latter two authorities, he does not have to speak very sharply in getting his wishes carried.

Senator LEVIN. Thank you.

Senator QUAYLE. Senator Glenn.

SENATOR GLENN. Thank you, Mr. Chairman.

The third point you made in your opening statement was the need to focus attention on Government's relations with industry, and you called for better self-government by defense contractors.

What policies can be set up in DOD to make sure that we are not getting cheated? We have all heard over the last 3 or 4 years the horror stories in defense contracting and so on, and we have to be responsibile for making sure tax dollars are spent properly and are accounted for. How do we do that?

Mr. PACKARD. There are two or three specific things we may have touched on before you came in. In the first place, some of the rules were not very well defined. There were an awful lot of gray areas regarding what was allowable and what was not allowable as overhead.

Those things were generally negotiated by the contracting officer. The contractor stressed the limit and applied for everything he thought might be approved. When we looked into the record, generally 60 percent of the things were disallowed and 30 percent were approved.

In a sense, it was kind of playing games with each other. There is no reason why those issues of knowing what is and is not allowable cost should not be clearly defined. That is the first step that should be taken, and we think that should be done by direct negotiations between the Department of Defense and the contractors.

I have talked to enough contractors who feel quite sure that if they know what the rules are and if they know that the rules are going to be held to the nickel, they will do it. That has not been established, so that is the first thing that needs to be done.

The second thing that needs to be done has to do with internal auditing. The internal auditing procedures of most industry, including the defense industry, do not get into the issues of charging direct labor and allocation of overhead in various contracts and so forth because the internal auditing function has been done to present the overall asset liability in annual reports.

Assuming that there is no great problem, if you have a number of different products, and you have to charge more direct labor to one than the other, it all comes out in the wash.

When you are dealing with the defense contractors that are doing both defense business and commercial business, then you have to be careful that the direct labor costs and the overhead allocation are done properly. There is no reason why defense contractors should not do this right.

We have had some extensive studies on that, and most defense contractors have not had an adequate internal audit capability. We think it would be much better for them to build up their internal audit capability so they can do it themselves. The Defense Department can check on it once in a while to be sure they have that capability.

That would than greatly reduce the number of people you have out there looking at details. That is the kind of thing we are talking about.

Senator GLENN. Just one other question, Mr. Chairman.

In your opening remarks you said that in fact many reforms in the past few years have not addressed the root causes of problems in defense acquisition. In many cases, they have made the problems worse.

Can you give us some examples of that? Maybe we can undo some of those as a first step.

Mr. PACKARD. There are some problems in the Competition Contracting Act, for example, that make it very difficult to buy commercial items because you have to go out and let anybody who wants to bid bid. It just makes an impossible job.

We were going to try and give you some recommendations on those items. We understand that they are all done for good purposes, and in many cases they do some good things. Quite often, they do not accomplish quite what should be accomplished, and by now you have got so many of them that sometimes they are conflicting.

Senator GLENN. By getting into this and overmicromanaging and so on from here, maybe this is a good place to start to try to undo some of the things we have done here in the past.

Mr. PACKARD. I think it would be, but some of these requirements, of course, have strong constituents. You have small business people who you are going to have to continue to deal with, so you are not going to be able to develop a perfect set that would make the system the most efficient.

You have some political problems you have to deal with as well.

Senator GLENN. In your report, you are recommending executive and legislative changes. On page 31, you have a recommendation to recodify Federal laws and other items. I think that is probably the first place that fits and also reflects your comment.

Mr. PACKARD. Yes.

Senator GLENN. Thank you very much, Mr. Chairman.

Senator QUAYLE. Thank you.

Senator GLENN. My congratulations on your report also.

Senator QUAYLE. Thank you, Senator Glenn.

Again, gentlemen, thank you very much for a fine presentation today and a very comprehensive recommendation.

I hope that you will allow us to prevail upon your guidance and suggestions as we traverse the legislative route to try to get a consensus and more stability in our procurement area.

Thank you.

Mr. PACKARD. We thank you very much for giving us the opportunity to present our report. We undertook this job with the hope that we can bring about some improvement, and we are going to help to the extent we can.

Senator QUAYLE. I think you can tell by the remarks here today on both sides of the aisle that we are very impressed with your recommendations, and I think we will make some progress.

[Subsequent to the hearing, additional questions were submitted to the Packard Commission to be answered for the hearing record:]

QUESTIONS SUBMITTED BY SENATOR DAN QUAYLE, ANSWERS SUPPLIED BY THE PACKARD COMMISSION

Senator QUAYLE. In the section of your report dealing with enhancing the quality of acquisition personnel you recommend expanding the so-called China Lake Personnel System and including other critical acquisition personnel under such a system. What categories of acquisition personnel do you recommend including in this expanded system? Should such a system apply uniformly to all personnel in these categories in the Department of Defense? Do you have an estimate of how many acquisition personnel your recommendation would actually cover?

PACKARD COMMISSION. Categories of critical system acquisition personnel should be determined by the Secretary of Defense. The following categories of personnel should consider: program management, contracting, business/financial management, production, logistics and quality assurance personnel. The number of acquisition personnel would depend on which categories or personnel series are included, and whether the Department applies the criteria to major systems acquisition personnel or to all personnel in the acquisition arena, and could vary from 10,000 to 165,000.

Senator QUAYLE. Will placement of audit policy (and presumably DCAA) under the new Under Secretary (Acquisition) deprive the auditors of the professional independence needed to do their jobs?

PACKARD COMMISSION. No. Under the Commission's concept, the independence of the DCAA auditors as they perform their mission would be unchanged.

The Commission felt that the USD(A) should have total responsibility for the DoD/Contractor business relationship. To effectively discharge this responsibility, the Commissioners felt that it was essential that the USD(A) have the authority to establish contract audit policy.

The Commission did not recommend that DCAA report directly to the USD(A). The Commission feels that the DCAA reporting structure should be at the discretion of the Secretary of Defense.

Senator QUAYLE. Under your proposal as discussed at the hearing, we understand that if a Service Secretary were to issue a directive which conflicted with acquisition policies promulgated by the Under Secretary (Acquisition), the Under Secretary (Acquisition) could rescind the conflicting service directive. Is this the intention of your recommendation?

PACKARD COMMISSION. The USD(A), under the Commission's concept, would have full authority for all acquisition policy. This would include setting policy, administering implementation of policy and ensuring that any unique Service policy would conform with the policy set by USD(A).

Based on the Commission's recommendation that the USD(A) be in charge of the acquisition system, if a Service issued a policy that conflicted with that of the USD(A), the USD(A) could direct that the policy be rescinded. (If conflict still existed, it would be raised to the Secretary of Defense.)

Senator QUAYLE. Similarly, we now understand that if a service is doing something improperly on a given major program, the Under Secretary (Acquisition) would have the authority to insist that the program be conformed to his direction. Is this your intention also?

PACKARD COMMISSION. The USD(A) has two major responsibilities—policy and oversight of all elements of the acquisition system, including individual service programs as well as the decision responsibility for Full Scale Development and High Rate Production for major programs. While the Commission feels that the day-to-day management of the programs should be under the direction of the Services, the USD(A) would be expected to review programs on a periodic basis (in concert with the JRMB), supported by whatever information feedback system he deems appropriate.

Under this approach, the USD(A) would have the authority and responsibility to effect changes in Service programs. The Commission would expect the USD(A) to implement these changes through the Service Acquisition Executives.

Senator QUAYLE. Regarding the rationale for making the Under Secretary (Acquisition) only a "co-chairman" of the expanded Joint Requirements and Management Board (JRMB). What is his authority vis-a-vis the other co-chairman (the Vice Chairman of the Joint Chiefs)? As we understand the current makeup of the JRMB, why did you leave the JRMB so heavily military? Is it advisory or a decisionmaking group? Is the USD (Acquisition) in charge of the JRMB—i.e., can the USD (Acquisition) ignore the unanimous opinion of all the other board members—if not, why not? Why is it desired to have a co-chairman for decisions that are clearly within

the understood delegated authority of a Level II appointee? How will the Secretary of Defense be involved in these JRMB decisions?

PACKARD COMMISSION. The emphasis on the JRMB alters the focus of the decision-making process from one of a technical (cost/schedule/performance) perspective to one of a requirements and operational suitability perspective.

The prime reasons behind the Co-chair arrangement of the JRMB as recommended by the Commission was to bring together a number of weapon system viewpoints, including the Services (which tend to be long term oriented), the Unified and Specified Commanders (who tend to be short term oriented), and the USD(A) who is most concerned with the performance of the acquisition system in meeting the objectives of the program.

The Vice Chairman of the JCS would be expected to bring a broad operational flavor to the JRMB along with the input from the Unified and Specified Commanders whereas the USD(A) would ensure that the technical assessment was properly addressed in the decision process.

Further, the USD(A) and the Vice Chairman of the JCS would be expected to be the decision makers, not needing a consensus from the Vice Chiefs of the Services to proceed.

In the rare case where the Co-Chairmen could not agree, the issue could be raised to the Secretary of Defense.

Senator QUAYLE. We are encouraged by your emphasis on using more commercial products when appropriate. Would you explain why DoD need not get involved in verifying a commercial manufacturer's overhead and still be assured of a fair and reasonable price? How does requiring a certification of lowest price or identification of suppliers inhibit (p. 26 of your report) commercial manufacturers from competing for government contracts? Are you familiar with S. 2196? What comments on S. 2196 do you have?

PACKARD COMMISSION. The competition inherent in the open marketplace will encourage commercial suppliers to minimize their costs including overhead so as to maintain their cost competitiveness.

The administrative burden associated with certifying lowest price and identifying suppliers will discourage some suppliers from getting involved in government contracts.

Senator QUAYLE. Under the expanded JRMB proposal, how are the early decisions, i.e., (1) mission need determination and (2) "Milestone I" (concept selection) made? Does the JRMB get involved earlier than Milestone II? When is the "make or buy decision made?

PACKARD COMMISSION. Under the expanded JRMB proposal, the JRMB would be responsible for authorizing new starts by validating the requirement and by entering the programs into the competition for resources. While the Commission specified Full Scale Development and High Rate Production as decision points, the Commission also specified that the JRMB would review and assess trade-offs, which includes make/buy decisions and concept selection. The bulk of this activity would occur between program initiation and Full Scale Development.

Make or buy decisions can be made at program initiation at the systems level or during the life of the program for subsystems and components.

Senator QUAYLE. In what way do you see the JRMB being any more qualified or likely to challenge requirements after prototypes have been built, than is the current DSARC (Defense System Acquisition Review Council) at earlier program decision points under the present procedures?

PACKARD COMMISSION. The Commission recommendation to involve the JRMB in the requirements/definition/determination process will hopefully minimize the need to challenge requirements after a prototype is operational. With the focus on the requirement and operational suitability, the Commission feels that a more objective environment will be created much earlier than in the past.

Senator QUAYLE. Who will control the staff input going to the JRMB? Won't the individual service pushing a weapon system provide all the staff input to the members, including results of fly offs, cost estimates and the like? If so, why do you expect different results than from the DSARC process? If not, how would you expect the staff advice and information considered to differ?

PACKARD COMMISSION. The Commission expects the Service Members of the JRMB to be supported by their current staffs and the USD(A) would be supported by the OSD offices that currently support the DSARC. The Vice Chairman of the JCS will require some realignment of resources and responsibilities of the current JCS staff.

With the focus of the JRMB on requirements and operational suitability, the nature of these staff inputs would be expected to change over time. The objectivity

of the JRMB will be enhanced by the change in focus vis-a-vis the DSARC process and the objective (non-advocate) role of the USD(A) as the Co-chair of the JRMB.

Senator QUAYLE. After prototypes have been built but before Full Scale Engineering Development (FSED), how much confidence can be placed on cost estimates? Isn't the process of FSED, by its nature likely to change unit costs, support costs, etc. on the system? At what point in the process do you believe firm fixed price contracts are proper for a developmental system? How will your proposal balance the considerations of keeping costs down against requiring firm fixed price contracts before production and support costs can be reasonably estimated? If prices are fixed, say for production options, don't you anticipate the problems of wrong type of contract, such as the old total package procurement, to be repeated?

PACKARD COMMISSION. The use of prototypes offers great potential to identify cost and technical problems at the earliest possible point so that decisions as to configuration changes, performance changes or even cancellation can be made. At the same time, prototypes provide a better cost estimating basis for the program than paper studies or contractor and program office assessments. While program changes during Full Scale Development are certainly not prohibited or even discouraged, the use of prototypes should reduce much of a program's technical, schedule, and cost risks before it enters Full Scale Development.

The Commission believes strongly that the type of contract used for weapons system acquisition should be dictated by the degree of risk associated with the program's acquisition phase.

Senator QUAYLE. Won't following more commercial buying techniques reduce the number of potential suppliers and thus reduce competition?

PACKARD COMMISSION. Following the Commercial buying techniques may indeed reduce the number of potential suppliers, but the Commission feels that the remaining suppliers would be the best qualified and fully capable of meeting the government's requirements. The Commission feels that competition among a small number of well qualified suppliers (the Commercial model) would be more beneficial to the government than competition among a large number of suppliers (which would include unqualified suppliers).

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN, ANSWERS SUPPLIED BY THE PACKARD COMMISSION

Senator LEVIN. Should the Under Secretary of Defense for Acquisition, (USDA), have the authority to direct the Service Secretaries to take specific action on specific procurements?

PACKARD COMMISSION. Yes. Under the Commission's concept, the USD(A) would have authority to take specific action on a program. The USD(A) would implement his direction through the appropriate Service Acquisition Executive.

Senator LEVIN. Does the Packard Commission support the proposal that the Defense Contract Audit Agency should report through the USDA? If so, what is the basis for this position?

PACKARD COMMISSION. The Commission believes that the USD(A) should have authority to establish contract audit policy. However, the Commission feels that any decision to reorganize DCAA's reporting chain should be left to the Secretary of Defense.

Senator LEVIN. Would the establishment of "short, unambiguous lines of authority" result in the elimination of any DoD offices? If so please specify which offices would be eliminated.

PACKARD COMMISSION. The specific implementation of the reorganization recommendations: the establishment of the USD(A) and the reduction of layering based on the Commission SAE/PEO/PM concept may result in elimination of some DoD offices. While the commission would encourage manpower reductions in Dod positions, the Commission has not made any specific recommendations as to office elimination.

Senator LEVIN. What reduction in procurement personnel, in either absolute or percentage terms, could be anticipated as a result of establishing "short, unambiguous lines of authority"?

PACKARD COMMISSION. While the Commission advocates manpower reductions, it has not selected either a percentage or the specific type of personnel that could be reduced.

Senator LEVIN. Your April 1986 report states "An army of advocates for special interests decends on the program to ensure that it complies with various standards for military specifications, reliability, maintainability, operability, small and minority business utilization, and competition to name a few. Each of these advocates can demand that the program manager take or refrain from taking some action, but

none has any responsibility for the ultimate cost, schedule, or performance of the program". Can you specify all of the advocacy groups to which you are referring and whether any of these groups are required, by statute, to have sign-off authority? If so, please state which ones.

PACKARD COMMISSION. There are a number of special interest offices and/or advocated in the DoD. These include among others:

Competition Advocate;
Small and Disadvantaged Business Utilization;
Streamlining Advocate;
Economic Production Rates;
Reliability and Maintainability; and
Software.

The Competition Advocates and the Small and Disadvantaged Business Utilization Offices are established by Congress. The others have been established by DoD.

Senator LEVIN. Should the reporting structure identified in the report, i.e. no more than one reporting level between the program manager and the Service Acquisition Executive, apply to all programs without consideration as to program size or sensitivity?

PACKARD COMMISSION. The reporting structure identified in the report is oriented towards major programs. One of the major benefits of limiting the layers of management is to limit the involvement of personnel without specific program responsibility. This is fundamental to restoring the aligning of authority, responsibility and accountability. While the other than major programs may require some reasonable delegation and perhaps more than a single layer, the Commission expects that the concept of authority, responsibility and accountability would be fundamental to program management procedures.

Senator LEVIN. Ray Kline, President of the National Academy of Public Administration, testified that the alternate personnel system should be implemented by organization rather than by skill. Do you have a preference as to how the alternate system should be implemented—by organization or by skill?

PACKARD COMMISSION. Implementing an alternative personnel system by organization takes time, and raises the issue of priorities among organizations. Which organization would you start with? In the meantime, a critical problem in recruiting and retaining scientists and engineers throughout the government has already been identified. The same is true for critical acquisition professionals in Dod. We need to fix the problem now throughout the Department, not wait for a total solution that may take years to implement across all DoD elements.

Senator LEVIN. How would the Commission proposal, that the USD(A) establish audit policy, affect the Dod IG's Charter that currently states that the IG is responsible to "provide policy direction . . . for audits"?

PACKARD COMMISSION. The Commission recommended that the USD(A) have authority for establishing contract audit policy so that contract audit policy can be better coordinated with other oversight activities under the control of the USD(A).

The Commission feels very strongly that providing policy direction for audits does not mean establishing the overall contract audit policy which is fundamental to managing the Government/Contractor interface.

Senator QUAYLE. Thank you very much. The committee stands adjourned.

[Whereupon, at 4:10 p.m., the subcommittee was adjourned, subject to the call of the Chair.]

Appendix

A Formula for Action

A Report to the President on
Defense Acquisition

by the President's
Blue Ribbon Commission
on Defense Management

April 1986

I. Introduction

The President established the Blue Ribbon Commission on Defense Management in part because public confidence in the effectiveness of the defense acquisition system has been shaken by a spate of "horror stories"—overpriced spare parts, test deficiencies, and cost and schedule overruns. Unwelcome at any time, such stories are particularly unsettling when the Administration and Congress are seeking ways to deal with record budget deficits. A major task of this Commission has been to evaluate the defense acquisition system, to determine how it might be improved, and to recommend changes that can lead to the acquisition of military equipment with equal or greater performance but at lower cost and with less delay. For this purpose, the Commission formed an Acquisition Task Force.*

We analyzed the horror stories, as others have done, but concluded that a diagnosis based on recognized deficiencies could lead only to band-aid treatments for a system more fundamentally ill. Therefore, our basic methodology has been deliberately quite different.

We compared the defense acquisition system with other systems, both government and commercial, that develop and produce equipment of comparable complexity, in order to find success stories that could provide a model on which reforms of the defense acquisition system could be based. Defense acquisition represents the largest and, in our judgment, the most important business enterprise in the world. It deserves to be managed with the highest standards. We therefore conducted a "search for excellence" by examining organizations that had been most successful in acquisition, in order to find a model of excellence for defense acquisition.

The major recommendations developed by the Acquisition Task Force were presented in our Interim Report of February 28, 1986. This, the Commission's Report on Defense Acquisition, is intended to provide additional detail and to assist in implementing the recommendations already made.

*The work of the Task Force was directed by William J. Perry. In addition to David Packard, its members included Louis W. Cabot, Charles J. Pilliod, Jr., R. James Woolsey, and the late Ernest C. Arbuckle.

II. The Scope of the Defense Acquisition System

Defense acquisition is the largest business enterprise in the world. Annual purchases by the Department of Defense (DoD) total almost $170 billion—more than the combined purchases of General Motors, EXXON, and IBM combined. DoD's research and development (R&D) expenditures are more than fifteen times those of France, Germany, or the United Kingdom, and eighty times those of Japan. Defense acquisition involves almost 15 million separate contract actions per year—or an average of 56,000 contract actions every working day.

DoD makes only a small percentage of its equipment. It depends primarily on the nation's industrial companies to develop its weapons and to manufacture everything from belt buckles to aircraft carriers. In general, these companies do not work solely on defense contracts. Most of the top 50 defense contractors also engage in substantial commercial production. Boeing, for example, supplies aircraft both to DoD and to commercial airlines. IBM supplies computers for military and commercial applications. In this way, the technological base developed for commercial products can be effectively applied to military products, and vice versa. On the other hand, this dual commercial-military product base greatly complicates DoD's task of regulating and auditing the technical and financial performance of industry.

DoD employs more than 165,000 people, both civilian and military, to manage this vast array of R&D, procurement, and logistics programs. Nearly all of these people work for the Services, which directly manage these programs subject to the oversight of a relatively small staff in the Office of the Secretary of Defense (OSD). Further oversight is provided by the Executive Office of the President, including the Office of Management and Budget, particularly in connection with the President's defense budget. And the Congress, in exercising its constitutional responsibility to provide for our Armed Forces, authorizes and appropriates funds for each of more than 2,600 specified procurement and R&D line items, and plays a major role in overseeing acquisition programs.

A responsible analysis of problems in the defense acquisition system must take into account the complexity and scope of acquisition programs. A responsible prescription for change must address the actions of everyone who—for better or worse—can influence these programs, from defense contractors and program managers to OSD officials and Members of Congress.

III. Problems with the Present Acquisition System

All of our analysis leads us unequivocally to the conclusion that the defense acquisition system has basic problems that must be corrected. These problems are deeply entrenched and have developed over several decades from an increasingly bureaucratic and overregulated process. As a result, all too many of our weapon systems cost too much, take too long to develop, and, by the time they are fielded, incorporate obsolete technology.

Recent public attention has focused on cases of spare parts overpricing that have been prominently reported by the media. Many of these cases were uncovered by DoD itself, which has a major effort underway to detect spare parts overpricing and to minimize such problems in the future. By contrast, we have focused on the acquisition of major weapon systems, because improved efficiency there can lead to cost savings greater by orders of magnitude. We nonetheless also analyzed the spare parts cases to determine whether they are indicative of systemic problems and, if so, how these should be addressed. Although each of the cases we examined had its own peculiarities, we identified a number of problems that frequently recurred: for example, government insistence on rigid custom specifications for products, despite the commercial availability of adequate alternative items costing much less; the ordering of spare parts so late in a program, after the close of the production line, that they must be expensively hand tooled; the use of unsuitable cost allocation procedures that grossly distort the price tags of inexpensive spare parts; the buying of spare parts in uneconomically small quantities and hence at higher prices; and the simple exercise of poor judgment by acquisition personnel.

In general, we discovered, these problems were seldom the result of fraud or dishonesty. Rather they were symptomatic of other underlying problems that affect the entire acquisition system. Ironically, actions being prescribed in law and regulation to correct spare parts procurement tend to exacerbate these

underlying problems by making acquisition procedures even more inflexible and by removing whatever motivation exists for the exercise of individual judgment. This Report will concentrate on ways of improving the efficiency of the overall acquisition system. Removing bureaucratic inefficiencies in our acquisition of major weapon systems also will realize significant improvements in our procurement of associated spare parts.

Problems with the present defense acquisition system begin with the establishment of approved "military requirements" for a new weapon, a step that occurs before development starts. Two common methods exist for establishing the need for a new system—"user pull" and "technology push." Both methods are unsatisfactory.

User pull defines the institutional process by which users (notably the Services) assess the adequacy of existing weapons to meet military needs, and state the characteristics of the next generation of equipment desired to overcome identified inadequacies. In general, this process does not adequately involve participants with a sophisticated knowledge of the cost and schedule implications of technical improvements required to satisfy these characteristics. Consequently, user pull often leads to goldplating—that is, the inclusion of features that are desirable but whose cost far exceeds their real value. If users understood the likely impact of their requirements on the schedule, quantity, and maintainability of the weapons they eventually received, they would have strong motivation for compromise. Generally, however, that compromise—a conscious trade-off between performance and cost—does not take place to an adequate degree. Implicitly, it is assumed that military requirements should be "pure," and that any necessary trade-offs will take place later in the process.

Alternatively, requirements often are established by technology push. A government or industry team conceives of a new or advanced technology. It then tries to persuade users to state requirements that will exploit the new technology. Most of the really significant improvements in military technology—radar, jet engines, and the atomic bomb, for example—have occurred by technology push rather than by an abstract statement of requirements. Because participants in this process tend to push technology for its own sake, however, this method is no less prone to result in goldplating than user pull.

Once military requirements are defined, the next step is to assemble a small team whose job is to define a weapon system to meet these requirements, and "market" the system within the government, in order to get funding authorized for its development. Such marketing takes place in a highly competitive environment, which is desirable because we want only the best

ideas to survive and be funded. It is quite clear, however, that this competitive environment for program approval does not encourage realistic estimates of cost and schedule. So, all too often, when a program finally receives budget approval, it embodies not only overstated requirements but also understated costs.

Funding having been approved, the DoD program team is then enlarged and given the task of preparing detailed specifications. Weapon system specifications for a major program typically run to thousands of pages, not counting generic military specifications included by reference. System specifications effectively become a surrogate for overstated military requirements, which tend to fade from view.

DoD then invites industry to bid on the program. The overly detailed system specifications serve as a basis for defense contractors to prepare competitive proposals describing how they would meet the specifications, and at what cost to them and price to the government. The preparation of competitive proposals may very well expose technical problems with the specifications, or reveal modifications that would be cost effective. The environment in which program competition typically takes place, however, encourages improvements *within* specifications, but discourages modifications that *deviate* from specifications. This effectively forecloses one principal factor—trade-offs between performance and cost—on which the competition should be based. The resulting competition, based instead principally on cost, all too often goes to the contractor whose bid is the most optimistic.

In underbidding, contractors assume there will be an opportunity later in a program to negotiate performance trade-offs that make a low bid achievable, or to recover understated costs through engineering change orders. Today, however, most production and many development contracts are negotiated on a firm, fixed-price basis. For the government, the advantages of a fixed-price arrangement, particularly the incentives it creates for realistic bidding, are obvious. The disadvantages to the government, while more subtle, are nevertheless of real concern. Fixed-price contracts effectively can enshrine overstated requirements and understated costs in a legal arrangement that allows little or no flexibility for needed trade-offs between cost and performance. This contractual arrangement, intended to protect the government, may cause both sides to lose.

In the face of these daunting problems, DoD selects a successful bidder and launches the program. The DoD program manager sets out to accomplish the improbable task of managing his overspecified and underfunded program to a successful conclusion.

But what was merely improbable soon becomes impossible. The program manager finds that, far from being the manager of the program, he is merely

one of the participants who can influence it. An army of advocates for special interests descends on the program to ensure that it complies with various standards for military specifications, reliability, maintainability, operability, small and minority business utilization, and competition, to name a few. Each of these advocates can demand that the program manager take or refrain from taking some action, but none of them has any responsibility for the ultimate cost, schedule, or performance of the program.

None of the purposes they advocate is undesirable in itself. In the aggregate, however, they leave the program manager no room to balance their many demands, some of which are in conflict with each other, and most of which are in conflict with the program's cost and schedule objectives. Even more importantly, they produce a diffusion of management responsibility, in which everyone is responsible, and no one is responsible.

Meanwhile, throughout this process, various committees of Congress are involved. During the marketing phase, it is not enough for the program manager to sell the program to his Service leaders and the various staffs in the Office of the Secretary of Defense. He also must sell the program to at least four committees and to numerous subcommittees of Congress, and then resell it for each fiscal year it is considered. In so doing, the program manager is either assisted or opposed by a variety of contractors, each advocating its own views of the program on Capitol Hill. While congressmen have an abstract interest in greater program effectiveness, they also have an intense pragmatic interest in their own constituencies. These two interests are frequently in conflict, as they exert pressure on specific programs through legislative oversight.

All of these pressures, both internal and external to DoD, cause the program manager to spend most of his time briefing his program. In effect, he is reduced to being a supplicant for, rather than a manager of, his program. The resulting huckster psychology does not condition the program manager to search for possible inconsistencies between performance and schedule, on the one hand, and authorized funding, on the other. Predictably, there is a high incidence of cost overruns on major weapon systems programs.

But a much more serious result of this management environment is an unreasonably long acquisition cycle—ten to fifteen years for our major weapon systems. This is a central problem from which most other acquisition problems stem:

- It leads to unnecessarily high costs of development. Time is money, and experience argues that a ten-year acquisition cycle is clearly more expensive than a five-year cycle.
- It leads to obsolete technology in our fielded equipment. We forfeit our five-year technological lead by the time it takes us to get our technology from

the laboratory into the field.

- And it aggravates the very goldplating that is one of its causes. Users, knowing that the equipment to meet their requirements is fifteen years away, make extremely conservative threat estimates. Because long-term forecasts are uncertain at best, users tend to err on the side of overstating the threat.

This description of the acquisition system is stark, but it by no means exaggerates the environment of many, if not most, defense programs. Given this pernicious set of underlying problems, it is a tribute to the dedication of many professionals in the system, both in and out of DoD, that more programs do not end up in serious trouble.

IV. An Acquisition Model to Emulate

Problems attendant to defense acquisition are not new, nor are such problems unique to DoD. Rather, they are typical of the way in which large bureaucracies, particularly government bureaucracies, manage large, complex projects. With this in mind, we compared how other large institutions have managed programs of similar complexity—that is, multi-year, multi-billion dollar programs incorporating state-of-the-art technology.

Two recent efforts have been made to draw such a comparison (see Appendix A). Notably, average cost growth in major defense programs has been found to be less than that experienced by many comparable civil programs, including highway projects, water projects, public buildings, and large processing plants. The good news from these studies is that DoD is no worse than other large bureaucratic organizations in managing major programs.

This leaves unanswered, however, what level of excellence can be achieved in defense programs. To answer this question, a landmark study was undertaken by the Defense Science Board (DSB) last year. The DSB compared typical DoD development programs with successful programs from private industry. It used as case studies the development of the IBM 360 computer, the Boeing 767 transport, the AT&T telephone switch, and the Hughes communication satellite. Each of these programs compares in complexity and size to a major weapon system development, yet each took only about half as long to develop and cost concomitantly less. These commercial programs clearly represent the models of excellence we are seeking, but it is not obvious that DoD, or any large bureaucratic organization, can follow successfully the management procedures used in private industry.

To address that question, the Acquisition Task Force examined several DoD programs that were developed under special streamlined procedures—the Polaris missile, the Minuteman missile, the air-launched cruise missile (ALCM), and several highly classified projects. We found that, in these programs, DoD achieved the accelerated schedules of the successful commercial programs.

It is clear that major savings are possible in the development of weapon systems if DoD broadly emulates the acquisition procedures used in outstanding commercial programs. In a few programs, DoD has demonstrated that this can be done. The challenge is to extend the correct management techniques to all major defense acquisitions, and more widely realize the attendant benefits in schedule and costs.

To this end, we analyzed a number of successful programs to identify management features that they had in common, and that could be incorporated in the defense acquisition system. We identified six underlying features that typified the most successful commercial programs:

1. ***Clear command channels.*** A commercial program manager has clear responsibility for his program, and a short, unambiguous chain of command to his chief executive officer (CEO), group general manager, or some comparable decision-maker. Corporate interest groups, wishing to influence program actions, must persuade the responsible program manager, who may accept or reject their proposals. Major unresolved issues are referred to the CEO, who has the clear authority to resolve any conflicts.

2. ***Stability.*** At the outset of a commercial program, a program manager enters into a fundamental agreement or "contract" with his CEO on specifics of performance, schedule, and cost. So long as a program manager lives by this contract, his CEO provides strong management support throughout the life of the program. This gives a program manager maximum incentive to make realistic estimates, and maximum support in achieving them. In turn, a CEO does not authorize full-scale development for a program until his board of directors is solidly behind it, prepared to fund the program fully and let the CEO run it within the agreed-to funding.

3. ***Limited reporting requirements.*** A commercial program manager reports only to his CEO. Typically, he does so on a "management-by-exception" basis, focusing on deviations from plan.

4. ***Small, high-quality staffs.*** Generally, commercial program management staffs are much smaller than in typical defense programs, but personnel are hand-selected by the program manager and are of very high quality. Program staff spend their time managing the program, not selling it or defending it.

5. ***Communications with users.*** A commercial program manager establishes a dialogue with the customer, or user, at the conception of the program when the initial trade-offs are made, and maintains that communication throughout the program. Generally, when developmental problems arise, performance trade-offs are made—with the user's concurrence—in order to protect cost and schedule. As a result, a program manager is motivated to seek out and address problems, rather than hide them.

6. ***Prototyping and testing.*** In commercial programs, a system (or critical subsystem) involving unproven technology is realized in prototype hardware and tested under simulated operational conditions before final design approval or authorization for production. In many cases, a program manager establishes a "red team," or devil's advocate, within the program office to seek out pitfalls—particularly those that might arise from operational problems, or from an unexpected response by a competitor. Prototyping, early operational testing, and red teaming are used in concert for the timely identification and correction of problems unforeseen at a program's start.

It is clear from our earlier description that defense acquisition typically differs from this commercial model in almost every respect. Yet a number of successful DoD programs have incorporated some or all of these management features to a greater or lesser degree. We therefore concentrated our efforts on deriving a formula for action—steps by which defense acquisition can come to emulate this model to the maximum extent practical.

V. A Formula for Action

While we would model defense acquisition after the practices of the best industrial companies, we recognize the unique problems DoD faces. Management of the acquisition of military equipment requires a unique blend of flexibility and judgment. The contributions of innovative scientists and engineers, necessary for equipment to achieve maximum performance, must be matched by those of military personnel who will use and maintain the equipment. Overlaying these complexities is the need for an informed trade-off between quantity and quality. At some point, more weapons of lower performance can overcome fewer weapons of higher performance. Hence it is necessary to achieve a critical balance between high military capability and low life cycle cost. In these and other respects, defense acquisition is one of the most difficult management jobs.

Despite the difficulties, we believe it is possible to make major improvements in defense acquisition by emulating the model of the most successful industrial companies. Surely this will not be easy, because present procedures are deeply entrenched. Acquisition problems have been with us for several decades, and are becoming more intractable with the growing adversarial relationship between government and the defense industry, and the increasing tendency of Congress to legislate management solutions. In frustration, many have come to accept the ten-to-fifteen-year acquisition cycle as normal, or even inevitable.

We believe that it is possible to cut this cycle in half. This will require radical reform of acquisition organization and procedures. It will require concerted action by the Executive Branch and Congress, and the full support of defense industry. Specifically, we recommend that the Administration and Congress join forces to implement the following changes in the defense acquisition system.

A. Streamline Acquisition Organization and Procedures

As we noted in our Interim Report, federal law governing acquisition has become steadily more complex, the acquisition system more bureaucratic, and

acquisition management more encumbered and unproductive. In the absence of a single, senior DoD official working full time to supervise the overall acquisition system, policy responsibility has become fragmented. As a result, the Services have tended to assume policy responsibilities and to exercise them at times without necessary coordination or uniformity. Worse still, authority for executing acquisition programs—and accountability for their results—has become vastly diluted.

For these reasons, it is fundamental that we establish unambiguous authority for overall acquisition policy, clear accountability for acquisition execution, and plain lines of command for those with program management responsibilities. It is also imperative that we streamline acquisition procedures. This can be facilitated by five related actions:

1. **We strongly recommend creation by statute of the new position of Under Secretary of Defense (Acquisition) and authorization of an additional Level II appointment in the Office of the Secretary of Defense (OSD).**

This new Under Secretary should have full-time responsibility for managing the defense acquisition system. He should be a Level II Presidential appointee and should have a solid industrial background in the management of complex technical programs. The new Under Secretary should be the Defense Acquisition Executive. As such, he should supervise the performance of the entire acquisition system and set overall policy for R&D, procurement, logistics, and testing. He should have the responsibility to determine that new programs are thoroughly researched, that military requirements are verified, and that realistic cost estimates are made before the start of full-scale development. (In general, we believe, cost estimates should include the cost of operating and maintaining a system through its life.) He should assure that an appropriate type of procurement is employed, and that adequate operational testing is done before the start of high-rate production. He also should be responsible for determining the continuing adequacy of the defense industrial base.

Appendix B sets outs an illustrative reorganization of acquisition responsibilities within OSD. Reporting to the new Under Secretary should be a Director of Research and Engineering*; an Assistant Secretary of Defense for Production and Logistics*; the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence; the Director of Operational Test and Evaluation; and such other offices and agencies as the Secretary of Defense may designate. The Under Secretary should be responsible to the

*We use these new titles to represent a reorganization of acquisition responsibilities for officials reporting to the new Under Secretary.

Secretary of Defense for balancing the sometimes conflicting views and interests of these various offices. He should establish overall acquisition policy, as well as contract audit policy; should promulgate and issue appropriate directives and regulations; and, except for criminal investigations, should supervise oversight of defense contractors. Finally, he should prepare annual and other reports to Congress on major issues of acquisition policy and on acquisition programs.

2. **The Army, Navy, and Air Force should each establish a comparable senior position filled by a top-level civilian Presidential appointee.**

The Commission considered recommendations to consolidate all defense acquisition activities under the Defense Acquisition Executive, but concluded that such centralization would not serve the cause of reducing the bureaucracy, because it would tend to separate further the acquisition staff from the military user. We believe that it is important to maintain the Services' traditional role in managing new weapon programs.

Accordingly, we recommend that each of the Military Departments establish a Service Acquisition Executive selected by the Service Secretary in consultation with the Defense Acquisition Executive. The Service Acquisition Executive should be a top-level civilian Presidential appointee, of rank equivalent to a Service Under Secretary. He should be responsible for administering Service acquisition programs under policy guidance from the Defense Acquisition Executive; accordingly, he should have substantial experience in acquisition and should devote full time to his acquisition responsibilities. For major programs, the Defense Acquisition Executive and his Service counterpart should function respectively like chief executive officers of a corporation and a principal corporate subsidiary. They should resolve major issues and conflicts as they arise, and represent programs before most senior decision-makers (here, the Secretary of Defense, the President, and Congress, rather than a board of directors).

3. **Each Service Acquisition Executive should appoint a number of Program Executive Officers.**

Each Service Acquisition Executive should appoint a number of Program Executive Officers (PEO) who, like group general managers in industry, should be responsible for a reasonable and defined number of acquisition programs. Program managers for these programs should be responsible directly to their respective PEO and, on program matters, report *only* to him. The Defense Acquisition Executive should insure that no additional layers are inserted into this program chain of command.

4. **By this means, DoD should substantially reduce the number of acquisition personnel.**

Establishing these short, unambiguous lines of authority will streamline the

acquisition process and cut through bureaucratic red tape. This should allow for a substantial reduction in the total number of personnel in the defense acquisition system, to levels that more nearly compare with commercial acquisition counterparts.

5. **Federal laws governing procurement should be recodified into a single, greatly simplified statute applicable government-wide.**

A streamlined organization for defense acquisition is not enough. It must be matched by streamlined procedures. Over the years, Congress and DoD have tried to dictate management improvements in the form of ever more detailed and extensive laws or regulations. As a result, the legal regime for defense acquisition is today impossibly cumbersome. For example, we have identified 394 different regulatory requirements in the Federal Acquisition Regulation (FAR) and the DoD FAR Supplement that are pegged to some 62 different dollar thresholds, ranging from as little as $15 to as much as $100 million or more. In our judgment, there can be far fewer of these requirements, and those that are retained can apply at far fewer dollar thresholds.

The sheer weight of such requirements often makes well-conceived reform efforts unavailing. At operating levels within DoD, it is now virtually impossible to assimilate new legislative or regulatory refinements promptly or effectively. For these reasons, we recommend that Congress work with the Administration to recodify federal laws governing procurement in a single, consistent, and greatly simplified procurement statute.

B. Use Technology to Reduce Cost

We recommend a high priority on building and testing prototype systems to demonstrate that new technology can substantially improve military capability, and to provide a basis for realistic cost estimates prior to a full-scale development decision. Operational testing should begin early in advanced development, using prototype hardware. The early phase of R&D should employ extensive informal competition and use streamlined procurement processes. To promote innovation, the Defense Advanced Research Projects Agency should engage in prototyping and other advanced development work on joint programs and in areas not adequately emphasized by the Services.

Fully exploiting our technological leadership is critical to the national security. The Soviet Union has twice as many personnel in its armed forces, and produces military equipment in far greater quantities than the United

States. We depend on our technological advantage to offset this quantitative disadvantage. But our technology can be exploited in two quite different ways: to reduce cost (so that we can better compete in quantity), or to increase performance (so that we can compensate for our smaller quantity).

We believe that DoD should place a much greater emphasis on using technology to reduce cost—both directly by reducing unit acquisition cost and indirectly by improving the reliability, operability, and maintainability of military equipment. Cost reduction has been a primary motivation in the introduction of new technology to commercial products. This emphasis has led to a tenfold reduction in the cost of computer products during the past decade. DoD should give a similar high priority to cost reductions by exerting greater discipline in the setting of performance requirements for new platforms, and by increasing the use of technology to extend the life of existing platforms. We could, for example, extend the effective life of most of our existing aircraft ten to twenty years by replacing their electromechanical subsystems with modern microelectronics. This would reduce the cost of operating and maintaining our aircraft, and at the same time improve their performance.

In some of our new weapon systems—fighter aircraft, for example—the need for maximum performance will be sufficiently compelling to justify the introduction of state-of-the-art technology. But this is not the case for all new systems. A weapon system should be predicated on state-of-the-art technology only when the benefits of the new technology offset the concomitant risks. This principle, easy to state, is hard to apply because of the difficulty in getting reliable information with which to make the trade-off of risks and benefits.

The only consistently reliable means of getting such information is by building prototypes that embody the new technology. Accordingly, we recommend that such prototyping, either at the system or critical subsystem level, be done as a matter of course for all major weapon systems. Operational tests should be combined with developmental tests of the prototype to uncover operational as well as technical deficiencies before a decision is made to proceed with full-scale development.

The early phase of R&D should follow procedures quite different from those of approved production programs, in order to complete the entire prototyping cycle in two or three years. Contracting should be streamlined to speed up the process of evaluating diverse new ideas. In the advanced technology phase of a program, competition should play a critical role, but the emphasis should be on an informal competition of ideas and technologies, rather than a formal competition of cost. At this stage, a formal competition based on detailed specifications not only is ineffective, but also introduces substantial delay. In fact, recent emphasis on cost competition has stretched out the time required to let some R&D contracts from a few months to as much as a year.

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In general, prototyping and testing in the early stage of R&D should be done by the Service that would be the primary user of the resulting system. In order to promote the use of prototyping, however, we recommend expanding the role of the Defense Advanced Research Projects Agency (DARPA).

At present, DARPA conducts research and exploratory development in high-risk, high-payoff technologies. DARPA should have the additional mission of stimulating a greater emphasis on prototyping in defense systems. It should do this by actually conducting prototype projects that embody technology that might be incorporated in joint programs, or in selected Service programs. On request, it also should assist the Services in their own prototyping programs. The common objective of all of these prototyping programs should be to determine to what extent a given new technology can improve military capability, and to provide a basis for making realistic cost estimates prior to a decision on full-scale development. In short, the prototype program should allow us to fly—and know how much it will cost—before we buy.

C. Balance Cost and Performance

A restructured Joint Requirements and Management Board (JRMB), cochaired by the Under Secretary of Defense (Acquisition) and the Vice Chairman of the Joint Chiefs of Staff, should play an active and important role in all joint programs and in all major Service programs. The JRMB should define weapon requirements for development, and provide thereby an early trade-off between cost and performance.

Full-scale development of a new weapon system is the single most critical step in the acquisition process. At this point, a number of fundamental decisions must be made—whether to undertake a new development or adapt an existing system, how far to push the new technology being incorporated in the system, what cost and schedule to authorize, and what the management structure will be. Misjudgment about any of these items can start a program off on a course that dooms it to failure. Currently, this critical decision is made by the Secretary of Defense, acting on advice from the Defense Systems Acquisition Review Council (DSARC), after the DSARC has made a detailed review of whether the proposed system will meet the stated user requirements and whether the cost and schedule estimates are credible. The recommended new emphasis on prototyping will contribute materially to improving the judgments about cost and schedule estimates. But the DSARC process, while adequate to determine whether the proposed specifications will meet the stated

user requirements, lacks a viable mechanism for *challenging* those requirements.

Fundamental to the ultimate success of a new program is an informed trade-off between user requirements, on the one hand, and schedule and cost, on the other. A delicate balance is required in formulating system specifications that allow for a real advance in military capability but avoid goldplating. Generally, users do not have sufficient technical knowledge and program experience, and acquisition teams do not have sufficient experience with or insight into operational problems, to strike this critical balance. It requires a blend of diverse backgrounds and perspectives that, because the pressures for goldplating can be so great, must be achieved at a very high level in DoD.

The DSARC is not the proper forum for effecting this balance. It has had very little success, for example, in stimulating the use of nondevelopmental items as an alternative to developing unique military products. Any time the military needs new trucks, tractors, radios, computers, and transport aircraft, for example, it should be the rule rather than the exception that DoD adapts products already developed by industry or by the armed forces of an allied nation. Much greater reliance on such items could realize major savings of money and time, but experience indicates that a decision to use non-developmental items must come from a high level in DoD, and must reflect operational judgment as well as technical sophistication.

We recommend, therefore, that the JRMB be restructured to make such trade-offs and then to decide whether to initiate full-scale development. The JRMB should have this authority for all joint programs and appropriate Service programs. It should evaluate major trade-offs proposed as a program progresses. Its determination, in effect, should substitute for the decision now made by the DSARC at what is called Milestone II. The JRMB should be cochaired by the Under Secretary of Defense (Acquisition) and the Vice Chairman of the Joint Chiefs of Staff.

Thus, the JRMB should be responsible for two decisions commonly made in industry, but not now an explicit part of DoD's decision-making process. One of these is the "affordability" decision, and the other is the "make-or-buy" decision.

The affordability decision requires that a subjective judgment be made on how much a new military capability is worth. If a new weapon system can be developed and produced at that target cost, it may be authorized for development; otherwise, ways should be found to extend the life of the existing system. Determining a target cost is difficult, to be sure, but CEOs in industry must make comparably difficult decisions on which their companies' survival depends.

The make-or-buy decision requires that the JRMB assess the need for a

unique development program, and determine if it is possible instead to buy or adapt an existing commercial or military system. At present, DoD passes up many valid opportunities for adapting existing systems, opportunities that could improve military capability more quickly and at reduced cost.

D. Stabilize Programs

Program stability must be enhanced in two fundamental ways. First, DoD should fully institutionalize "baselining" for major weapon systems at the initiation of full-scale engineering development. Second, DoD and Congress should expand the use of multi-year procurement for high-priority systems.

In connection with the decision to begin full-scale development of a major new program, the program manager should prepare a brief baseline agreement describing functional specifications, cost, schedule, and other factors critical to the program's success. This baseline agreement should be submitted, through the responsible Program Executive Officer and the Service Acquisition Executive, for approval by the Defense Acquisition Executive.

Within the terms of this agreement, the program manager should have full authority to execute the program. He should be fully committed to abide by the program's specified baseline and, so long as he does so, the Defense and Service Acquisition Executives should support his program and permit him to manage it. This arrangement would provide much-needed program stability, which could be enhanced significantly if the program were approved for multi-year funding. We recommend that Congress approve multi-year funding for the development and low-rate production of all major programs approved for full-scale development by the JRMB. In this way, Congress could join in the baseline agreement with the program manager, enhance program stability, and promote lower unit prices.

A program manager should agree to a baseline for all phases of his program. For the Acquisition Executives, however, the agreement should extend only to the first two phases of a program, full-scale development and low-rate production. Before a program could enter its third phase, high-rate production, it must be subjected to developmental and operational testing. Operational tests are particularly critical, and should continue through full-scale development. The first units that come off a low-rate production line should be subjected to intensive operational testing. Low-rate production should continue during testing, but a program should not be approved for high-rate production until the results of these tests are evaluated.

The JRMB should then reconsider the program at its second major milestone—whether to authorize high-rate production, at what level of

funding, and on what schedule. At this stage, available test results should provide a realistic portrait of the weapon's probable performance under operational conditions, current intelligence data should yield a realistic threat estimate, and low-rate production experience should provide a realistic estimate of production costs. Thus, the JRMB would possess the necessary data to make an informed judgment on high-rate production.

If the JRMB so determines, a program manager could proceed in accordance with the balance of his baseline agreement. Congress would be asked to authorize multi-year funding for the production phase of the program.

E. Expand the Use of Commercial Products

Rather than relying on excessively rigid military specifications, DoD should make greater use of components, systems, and services available "off-the-shelf." It should develop new or custom-made items only when it has been established that those readily available are clearly inadequate to meet military requirements.

No matter how DoD improves its organization or procedures, the defense acquisition system is unlikely to manufacture products as cheaply as the commercial marketplace. DoD cannot duplicate the economies of scale possible in products serving a mass market, nor the power of the free market system to select and perpetuate the most innovative and efficient producers. Products developed uniquely for military use and to military specifications generally cost substantially more than their commercial counterparts. DoD program managers accordingly should make maximum use of commercial products and devices in their programs.

A case in point is the integrated circuit or microchip—an electronic device used pervasively in military equipment today. This year DoD will buy almost $2 billion worth of microchips, most of them manufactured to military specifications. The unit cost of a military microchip typically is three to ten times that of its commercial counterpart. This is a result of the extensive testing and documentation DoD requires and of smaller production runs. (DoD buys less than ten percent of the microchips made in the U.S.) Moreover, the process of procuring microchips made to military specifications involves substantial delay. As a consequence, military microchips typically lag a generation (three to five years) behind commercial microchips.

When military specifications for microchips were first established, they assured a high standard of quality and reliability that was worth a premium

price. The need for quality and reliability in military equipment is as great as ever. In the last few years, however, industrial consumers of microchips have come to demand equivalent standards, and manufacturing processes and statistical methods of quality control have been greatly improved. It is now possible for DoD program managers to buy the bulk of their microchips from commercial lines with adequate quality and reliability, and thus to get the latest technology at a substantially lower cost. The Electronic Systems Division, responsible in the Air Force for the quality of electronic devices, recently began revising its procedures to achieve these objectives. We recommend that the Air Force accelerate its efforts and that the other Services follow its lead.

This same principle—the expanded use of commercial items—can apply to a great variety of products and services bought by DoD. These range from personal computers, computer software, and professional services, to a host of non-technical products such as bath towels and steak sauce.

We recommend that the Defense Acquisition Executive take steps to assure a major increase in the use of commercial products, as opposed to those made to military specifications. He should direct that program managers get a waiver before using a product made to military specifications, if there is an available commercial counterpart. When a "make-or-buy" decision must be made, the presumption should be to buy. This would invert present procedures, biasing the system in favor of commercial products and services, but permitting the use of items made to military specifications whenever a program manager believes it necessary to do so.

In addition, we recommend that the DoD Supplement to the Federal Acquisition Regulation be changed to encourage streamlining military specifications themselves. Applying full military specifications, far from being ideal, can be wasteful. A program manager should strive to invoke neither minimum nor maximum, but only relevant, requirements; and he should think in terms of optimization rather than deviations and waivers.

Thus, DoD should reduce its use of military specifications when they are not needed, and should take steps to improve the utility of military specifications when they are needed. This will require a serious effort to harmonize military specifications with the various commercially used specifications. For example, required military drawings for integrated circuits could incorporate a manufacturer's standard design specifications, test methods, and test programs. More generally, military specifications could be based on industry standards, such as those promulgated by the American National Standards Institute and the American Society for Testing and Materials. This would provide the technical underpinning for DoD to make substantially greater use of commercial devices and products, and thereby take advantage of the much lower costs that result from larger production runs.

One indirect benefit of buying commercial products is that the price is determined by market forces. This should relieve DoD of the administrative burden and cost of verifying a producer's overhead costs. For DoD to realize the full benefit of commercial buying, it should let competitive market forces provide a check on price and direct its own attention to validating quality.

F. Increase the Use of Competition

Federal law and DoD regulations should provide for substantially increased use of commercial-style competition, emphasizing quality and established performance as well as price.

Even when commercial products are not suitable for DoD's purposes, it can still use commercial buying practices to real advantage. Foremost among these practices is competition, which should be used aggressively in the buying of systems, products, and professional services. DoD clearly understands the need for such competition, which was articulated in the 1981 Carlucci Initiatives. Although DoD has made major efforts in this direction, much more can be done. It is particularly important to focus on achieving more effective competition, modeled after the competitive procurement techniques used in industry.

Commercial procurement competition simultaneously pursues several related objectives: attracting the best qualified suppliers, validating product performance and quality, and securing the best price. Price is, of course, as important a factor in commercial procurement as it is in DoD procurement. But it is only one of several equally important factors. Price should not be the sole determinant, especially for procurement of complex systems and services. Defense procurement tends to concentrate heavily on selecting the lowest price offeror, but all too often poorly serves or even ignores other important objectives.

In validating product quality, for example, DoD places too much emphasis on specific details of how the manufacturing process is to be done and too little on modern techniques of quality control. Industry makes extensive use of statistical sampling, and will accept or reject an order on that basis. Typically, an industrial company will keep lists of qualified suppliers that have maintained historically high standards of product quality and reliability. As long as these standards are maintained, industrial buyers do not require exhaustive inspection, and thereby save expense on both sides. Suppliers are highly motivated to get—and stay—on lists of qualified suppliers by consistently exceeding quality control standards.

Moreover, because competition is not a one-way street for the buyer, defense procurement practices must be less cumbersome if DoD is to attract the best suppliers. Procurement officers must be allowed and encouraged to solicit bids through purchase descriptions that are stated as functional performance characteristics rather than through detailed design and "how-to" specifications; to limit bids to qualified suppliers; to give preference to suppliers that have demonstrated the quality and reliability of their products; and to recognize value (quality and price) based on products' commercial acceptance in the marketplace. These practices have been found to yield effective competition in the commercial field, and their use in defense acquisition could provide better military equipment at no increase in cost.

Although Congress has ardently advocated increasing competition, some provisions of recent legislation in fact work at cross purpose to that objective. For example, burdening suppliers of off-the-shelf catalog items to identify all component parts and their producers, or to submit detailed pricing certifications, inhibits qualified companies from competing for government contracts. Regulatory implementation—for example, DoD's efforts to require contractors to release rights in technical data on their products—has a similar effect.

A further problem stems from confusion regarding the intent of recent legislation—notably the Competition in Contracting Act's (CICA) requirement of "full and open competition," which some have interpreted to mean that the government *must* buy from the lowest offeror. CICA sought to make it clear that the award of a contract through competitive negotiation is a method of procurement no less acceptable than an award using formal advertising or sealed bids, and thus to recognize that competition entails more than just an assessment of lowest price. This goal has been obscured by the notion that full and open competition precludes the government from establishing qualification criteria, and forces the award of a contract based on price without regard, for example, to technical expertise or life cycle costs. This reinforces DoD's proclivity for writing detailed military specifications rather than functional product descriptions—in this context, in order to insure that all bidders offer identical items. At the same time, however, these narrow product specifications preclude the acquisition of most commercial products and, in effect, DoD's doing business with many qualified suppliers. Thus, the full potential of CICA is not being realized because of a focus on the quantity rather than the quality of competition.

In sum, we believe that DoD should greatly increase its use of truly effective competition, using as a model the competitive buying practices of major corporations and their suppliers. We recommend the elimination of

those legal and regulatory provisions that are at variance with full establishment of commercial competitive practices.

G. Enhance the Quality of Acquisition Personnel

DoD must be able to attract and retain the caliber of people necessary for a quality acquisition program. Significant improvements should be made in the senior-level appointment system. The Secretary of Defense should have increased authority to establish flexible personnel management policies necessary to improve defense acquisition. An alternate personnel management system should be established to include senior acquisition personnel and contracting officers as well as scientists and engineers. Federal regulations should establish business-related education and experience criteria for civilian contracting personnel, which will provide a basis for the professionalization of their career paths. Federal law should permit expanded opportunities for the education and training of all civilian acquisition personnel.

Our study convinces us that lasting progress in the performance of the acquisition system demands dramatic improvements in our management of acquisition personnel at all levels within DoD.

A pivotal recommendation of the Commission is the establishment of the position of Under Secretary of Defense (Acquisition) and comparable Service positions, all to be filled by leaders with outstanding business management credentials. Recruiting the most capable executives for jobs of such importance to the nation is extremely difficult, however, in the face of current disincentives to entering public service. A recent report of the Presidential Appointee Project of the National Academy of Public Administration* analyzes this problem and details twenty-three separate recommendations for improving the recruitment of senior-level Executive Branch personnel. These include, for example, specific suggestions for simplifying financial disclosure reports and for allowing Presidential appointees to defer capital gains taxes incurred by divesting assets to comply with conflict-of-interest provisions. Such steps would improve the government's ability to attract and retain the highly qualified people needed for effective senior management of defense acquisition. We strongly support these proposals.

*_Leadership In Jeopardy: The Fraying of the Presidential Appointments System_ (Final Report of the Presidential Appointee Project), November 1985.

Comparable improvements also are required for effective middle management and better line personnel. The defense acquisition work force mingles civilian and military expertise in numerous disciplines for management and staffing of the world's largest procurement organization. Each year billions of dollars are spent more or less efficiently, based on the competence and experience of these personnel. Yet, compared to its industry counterparts, this work force is undertrained, underpaid, and inexperienced. Whatever other changes may be made, it is vitally important to enhance the quality of the defense acquisition work force—both by attracting qualified new personnel and by improving the training and motivation of current personnel.*

The General Accounting Office (GAO) has been engaged in an important study to evaluate the capabilities of DoD program managers and contracting officers. The results of GAO's study† confirm the central importance of improving the quality of training for these two critical acquisition specialties.

The caliber of uniformed military personnel engaged in program management has improved significantly of late. Military officers manage over 90 percent of DoD's roughly 240 program offices. Their ranks range from 0–5 (lieutenant colonel/commander) to 0–8 (major general/rear admiral). Each of the Services has established a well-defined acquisition career program for its officers. These include the Army's Materiel Acquisition Management (MAM) program, the Navy's Materiel Professional (MP) programs, and detailed career planning regulations for Air Force technical personnel and program managers. We strongly support these measures. We also support recent legislation that has further defined career paths for all program managers. In 1984, Congress established a minimum four-year tenure for program management assignments. The 1986 Authorization Act prescribed requisite qualifications and training, including at least eight years of acquisition-related experience and appropriate instruction at the Defense Systems Management College (or equivalent training).

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*To this end, the Assistant Secretary of Defense for Acquisition and Logistics recently proposed creating a single Defense Acquisition Corps, modeled after the State Department's Foreign Service. See *DoD Acquisition Improvement—The Challenges Ahead*, Perspectives of the Assistant Secretary of Defense for Acquisition and Logistics: White Paper No. 2—Revitalization of the DoD Acquisition and Logistics Workforce (Nov. 5, 1985). We studied this proposal carefully, and support many of its specific features. Because it would have the undersirable result of putting too much distance between acquisition programs and users, however, we do not support the proposal in its full form.

†See U.S. General Accounting Office, *DoD Acquisition: Capabilities of Key DoD Personnel in System Acquisition* (GAO/NSIAD–86–45).

By contrast, much more remains to be done concerning civilian acquisition personnel generally. Civilians frequently cite the rigid pay grades and seniority-based promotion standards of the federal civil service as disincentives to continued employment. Higher pay and better opportunities in private industry lure the best college graduates and the brightest trainees away from government, particularly in such highly competitive fields as science, engineering, and contracting. One extremely important means to improve the acquisition work force is to establish an alternative personnel management system permitting greater flexibility with respect to the status, pay, and qualifications of civilian employees.

We reviewed the results of the Navy's so-called China Lake personnel project, in which recruitment and retention of key civilians were correlated with pay, incentives, and advancement based on performance. The China Lake experiment, which is outlined briefly in Appendix C, served to increase the retention of engineers and scientists, improve supervisor-employee relationships, and dramatically reduce management paperwork. Legislation is now pending to implement such a system for all federal scientists and engineers. The China Lake personnel system has produced significant benefits. It merits expansion. We therefore recommend that federal law permit the Secretary of Defense to include other critical acquisition personnel in such a system, and facilitate greater professionalism among civilian acquisition employees through government sponsorship of graduate instruction in acquisition management.

Among acquisition personnel, contract specialists have an especially critical role. More than 24,000 members of DoD's acquisition work force specialize in the award and administration of contracts. Eighty-five percent of these contract specialists are civilians. Contract specialists must master the extensive, complex body of knowledge encompassing materials and operations management, contract law, cost analysis, negotiation techniques, and industrial marketing. Yet, the Office of Personnel Management designates the Contract Specialist personnel series (GS 1102) as an administrative and not a professional series under Civil Service Title VIII. This administrative designation prohibits the establishment of *any* business education requirement for contract specialists. As a result, only half of DoD's contract specialists have college degrees, which may or may not be business-related. We recommend establishing a minimum education and/or experience requirement for the Contract Specialist series. Such a requirement, similar to that now established for the Accounting personnel series, would mandate an entry-level criterion of twenty-four semester hours in business-related courses or equivalent experience.

Independently, DoD should enhance the professional status of contract specialists by increasing the number of outside hires, conducting on-campus

recruitment, mandating the use of written tests for in-service placement and promotion, and establishing upward mobility programs for purchasing agents (GS 1105) and procurement clerks (GS 1106). DoD already has established acquisition training programs at five major facilities, and requires that all civilian contract specialists complete an average of six-hundred hours of mandatory training. According to a 1984 report of the DoD Inspector General,* however, approximately two-thirds of all DoD contract specialists had not completed this training. In a recent report, the Executive Committee on Federal Procurement Reform† also recognized the inadequate training given contract specialists.

Insufficient management attention and financial resources are serious impediments to adequate training of contract specialists and, for that matter, all acquisition personnel. Such training—like that provided generally in DoD intern programs—should be centrally managed and funded. This is necessary to improve the utilization of teaching faculty, to enforce compliance with mandatory training requirements, and to coordinate overall acquisition training policies.

*Office of the Inspector General, DoD, *Report on the Audit of Department of Defense Procurement Training*, No. 84-047 (Feb. 14, 1984).

†Executive Committee on Federal Procurement Reform Task Group No. 6, *Guidance on Establishing Procurement Career Management Programs*, Vol. I (May 1985).

VI. Recommended Executive and Legislative Changes

We have described a series of major reforms that, taken in aggregate, can make the defense acquisition system substantially more efficient. These reforms not only will save money but also will improve military capability by reducing the time it takes to field new weapon systems. Most of these reforms can be implemented by the President and Secretary of Defense. Some will require legislation.

We urge that Congress take the following steps:

- Create by statute the new position of Under Secretary of Defense (Acquisition); authorize an additional Level II appointment in the Office of the Secretary of Defense; and make necessary conforming changes to the current statutory organization of acquisition responsibilities within that Office.

- Recodify federal laws governing acquisition in a single, consistent, and greatly simplified procurement statute; and remove those features of current law and regulation that are at variance with the expanded acquisition of commercial products and the establishment of effective commercial-style procurement competition.

- Simplify and clarify financial disclosure reporting forms; amend tax laws to permit Presidential appointees to delay the impact of capital gains taxes they incur in divesting assets to comply with conflict of interest laws; and take other legislative actions necessary to implement fully the recommendations of the National Academy of Public Administration's Presidential Appointee Project.

- Amend civil service laws to permit flexible personnel management policies for acquisition professionals, and to expand opportunities for the education and training of all acquisition personnel.

- Authorize and appropriate multi-year funding of those programs for which the Joint Requirements and Management Board (as restructured by the Secretary of Defense) has authorized full-scale development or high-rate production.

We urge that the Secretary of Defense change current DoD acquisition organization and procedures as follows:

- Request that Congress create the new position of Under Secretary of Defense (Acquisition); designate this Under Secretary as the Defense Acquisition Executive; and invest him with full authority to supervise the defense acquisition system, including authority over all offices and agencies within the Office of the Secretary of Defense necessary for that purpose.

- Designate Service Acquisition Executives within each Military Department; and retain within the Services the traditional responsibility for managing acquisition programs.

- Assign to the Defense Advanced Research Projects Agency a specific mission in the conduct of prototype programs; and direct the Services to increase their emphasis on prototyping.

- Restructure the Joint Requirements and Management Board (JRMB) by directing that it be cochaired by the Under Secretary of Defense (Acquisition) and the Vice Chairman of the Joint Chiefs of Staff; delegate to this restructured JRMB the responsibility for authorizing full-scale development and high-rate production in all joint programs and in major Service programs; and direct the JRMB to:
    1. require the testing of prototype systems and subsystems before the authorization of full-scale development;
    2. require the use of baselining for all major new programs;
    3. require that operational test data be available before the authorization of high-rate production; and

4. significantly increase the use of nondevelopmental items as an alternative to new development programs.

- Instruct the Defense Acquisition Executive to take steps necessary to amend the DoD Supplement to the Federal Acquisition Regulation so as to:
  1. effect a major increase in the acquisition of available commercial components and systems by requiring program managers to obtain waivers for use of products made to military specifications when commercial alternatives are available; and
  2. establish commercial-style competitive procurement practices to the full extent permitted by law.

VII. Conclusion

At a recent meeting with the Defense Science Board, the Chairman of the Joint Chiefs of Staff stated that the most important way technology could enhance our military capability would be to cut the acquisition cycle in half. We agree that this objective is critically important, and we believe that it can be achieved. It cannot be done by technology alone, however. It requires a radical departure from our current organization and procedures. This, in turn, necessitates a new spirit and a willingness to change among acquisition professionals. It demands that government and industry repair their vital partnership. Most importantly, it presumes a special cooperation between Congress and the Executive to act for substantial improvement of the defense acquisition system.

We urge Congress and the Administration to work together to implement the Commission's formula for action to accomplish these critical reforms.

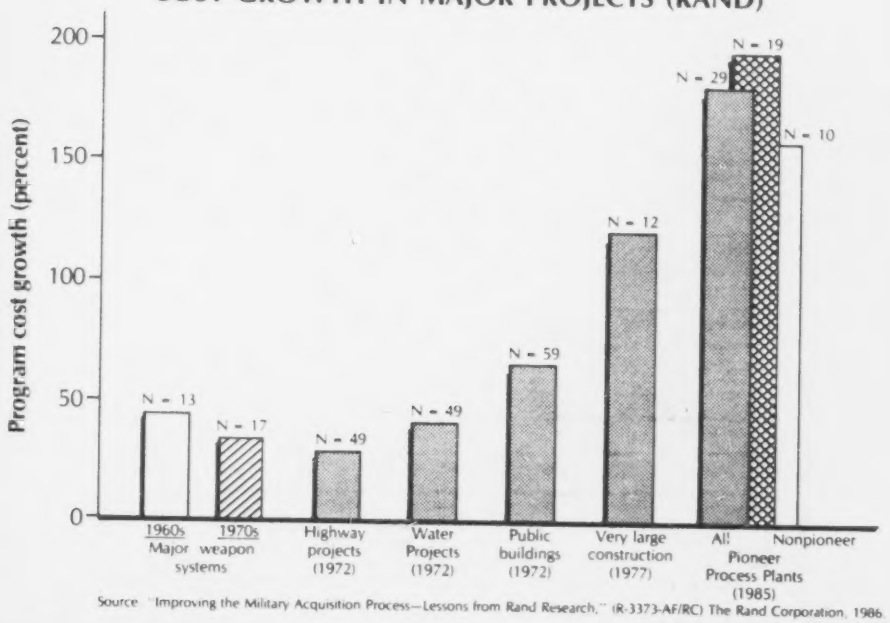
APPENDIX A

A Comparison of Cost Growth in Defense and Non-Defense Programs

Rand Corporation and The Analytic Sciences Corporation (TASC) separately analyzed the cost growth experienced by major DoD weapon system programs and comparably large, complex civil programs. The civil programs included numerous public and private sector projects that typically required many years to develop, involved substantial technical risks, and depended on the performance of many contractors. The results of these studies are outlined in Figures A-1 and A-2. Both studies lead to the conclusion that average cost growth in major DoD weapon system programs is lower than cost growth in many large scale civil programs.

Figure A-1

COST GROWTH IN MAJOR PROJECTS (RAND)



Source: "Improving the Military Acquisition Process—Lessons from Rand Research," (R-3373-AF/RC) The Rand Corporation, 1986.

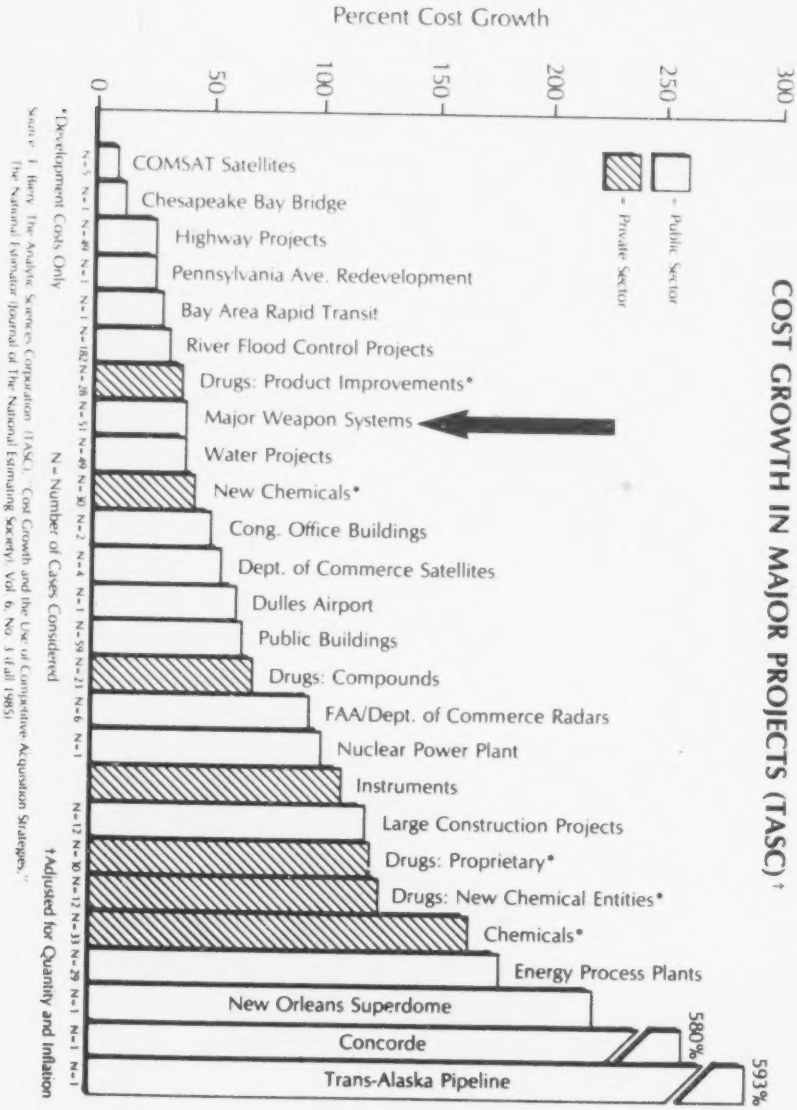


Figure A-2

COST GROWTH IN MAJOR PROJECTS (TASC)†

Source: F. Barry, The Analytic Sciences Corporation (TASC), "Cost Growth and the Use of Competitive Acquisition Strategies," The National Estimator (Journal of The National Estimating Society), Vol. 6, No. 1 (Fall 1985).

APPENDIX B

An Illustrative Organization of the Acquisition Staff of the Secretary of Defense

The current organization of the Office of the Secretary of Defense (OSD) allocates acquisition responsibilities generally as follows among eight senior OSD officials*:

1. The Under Secretary of Defense for Research and Engineering (USDR&E) provides policy and oversight for weapon system program development through full-scale engineering. USDR&E is responsible for managing the Defense Advanced Research Projects Agency (DARPA) and for developmental test and evaluation.

2. The Assistant Secretary of Defense (Comptroller) is responsible for all DoD financial matters and for management of the Defense Contract Audit Agency (DCAA).

3. The Assistant Secretary of Defense (Acquisition and Logistics) is responsible for policy and oversight of weapon system production, logistics, contracting policy and regulation, and management of the Defense Logistics Agency (DLA).

4. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (C^3I) is responsible for C^3I systems and policy and oversight of all associated research, development, and production activities.

5. The Director of Program Analysis and Evaluation (PA&E) is responsible for providing the Secretary of Defense with an independent assessment of DoD programs, including force structure, mission areas, weapon systems, manpower, etc. The Cost Analysis Improvement Group, which provides independent cost assessment of weapon system programs, reports to the Director of PA&E.

6. The Inspector General (IG) has authority to evaluate all DoD operations and activities, to oversee all phases of the acquisition process, to establish contract audit policy, and to investigate potential criminal conduct and evidence of fraud, waste, or abuse.

7. The Director of Operational Test and Evaluation (OT&E) provides policy and oversight for operational testing and evaluation, and assesses the success of weapon system testing conducted by the Services.

8. The Director of Small and Disadvantaged Business Utilization establishes, and monitors the achievement of, policy and budget goals for utilization of small and disadvantaged businesses.

To consolidate diverse policy-making responsibilities for improved management of the overall acquisition system, the Commission has recommended establishment by law of the position of Under Secretary of Defense for Acquisition (USD(A)). In the

*Certain of these officials—notably the Comptroller, Assistant Secretary of Defense (C^3I), the Director of PA&E, and the Inspector General—have various non-acquisition responsibilities not fully described here.

Commission's view, this new Under Secretary should have extensive experience in industrial management, and should:

- Be a Level II appointee.
- Work full-time on acquisition matters.
- Cochair the restructured Joint Requirements and Management Board.
- Serve as a member of the Defense Resources Board.
- Develop and implement DoD-wide acquisition policy, including policy for research and development and operational testing, and contract audit.
- Oversee the execution of weapon system programs, so that development and production decisions are validated by program requirements, technical performance, and cost.
- Generally supervise contractor performance.

For these broad purposes, the USD(A) should have authority over all elements of the OSD necessary to place the following functions under his direct supervision:

- All acquisition policy, including contract audit policy.
- Oversight of all acquisition programs (including C^3I programs) at all stages (including conceptualization, research, development, testing, production, and logistics).
- Oversight of advanced technology programs.
- Oversight of Test and Evaluation (T&E), including both developmental and operational T&E.
- Oversight of small and disadvantaged business utilization.
- Responsibility for independent cost assessments, including those of weapon system programs.

APPENDIX C

The Navy Demonstration Project: An Alternative Personnel Management System

Purpose

The Federal Classification and Compensation System of the Civil Service has remained largely unchanged since the passage of the Classification Act of 1923. In intervening years, the size and composition of the federal work force has changed dramatically. Today there is widespread agreement that the Civil Service system frequently inhibits effective recruitment, retention, and management of federal civilian employees. This is especially true of occupations for which there is strong private sector demand, such as scientists, computer specialists, engineers, and contract specialists.

In 1980, the Office of Personnel Management authorized the Department of the Navy to conduct a five-year demonstration of an alternative personnel system, designed to allow management to reward individual performance and compete in the labor market for high quality personnel. Under the authority of the Civil Service Reform Act of 1978, the Navy has conducted this Personnel System Demonstration project at the Naval Weapons Center at China Lake, California, and at the Naval Ocean Systems Center in San Diego. In 1984, the project was extended for a second five-year period.

Features

The project has included full-time personnel in the scientist, engineer, senior professional, administrative, and technical specialist career fields at both Naval facilities. At the San Diego facility, the project also has included clerical personnel, in order to ensure a comprehensive basis for evaluating the alternative system's performance and potential.

In the alternative system, five new general personnel classification levels have replaced the 18-grade General Schedule. The system initially has assigned each employee to a respective classification level on the basis of his attained professional expertise. Thereafter, it has ranked each employee competitively within his respective classification level on the basis of the quality of his performance. Length of service and veterans preference have been secondary considerations. The higher an employee's performance rating, the better his chance of advancement—or retention in the event of personnel cutbacks.

Each classification level is matched to a broad range of compensation. (See Figure C–1.) The broad pay ranges applicable at different levels of expertise have allowed line managers significantly more flexibility to make initial salary offers competitive with local market conditions. Compensation has been linked to performance, rather than time in grade. Thus, it has been possible to reward deserving individuals with higher pay without having to promote them to a higher classification level. Moreover, both Naval facilities have established pools for cash

awards in order to provide managers an additional means for recognizing superior performance. End-of-year performance bonuses have provided tangible incentives, and have made it possible to reward especially deserving employees without permanently increasing their pay.

Results of the First Five Years

For its initial five-year period, the demonstration project reported the following salient results:

- Improved ability to attract high quality personnel to entry-level positions.
- Dramatically reduced separation rates for scientists and engineers—from 8.1 percent in 1979 to 4.2 percent in 1983.
- Improved employee morale, through greater potential for advancement and professional growth.
- Reduced personnel management costs and streamlined personnel administration, including the reduction of personnel paperwork by 50 to 80 percent.

Figure C-1

CLASSIFICATION/PAY BAND EXAMPLE*

Classification Group: Scientists, Engineers and Senior Staff

Current System	Navy Personnel System Demonstration Project	Pay Range (in thousands)
GS–5 6 7 8	I Entry Level	$14.4 to 25.7
9 10 11	II Advanced Training	21.8 to 34.3
12 13	III Journeyman	31.6 to 48.9
14 15	IV Senior Specialists, Supervisors & Managers	44.4 to 67.9
16 17 18	V Professional Exceptional	61.3 to 72.3 (pay ceiling set by Congress)

*Other classification groups, such as technicians, technical specialists, administrative specialists, and clerical, have similarly designed pay bands.

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